EMU

One Year On

ECONOMICS

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Preface

This work was presented as background documentation for a seminar held at OECD headquarters on 25 January 2000. The main authors are Vincent Koen (Principal Economist, EU Desk) and Alain de Serres (Economist, EU Desk), under the supervision of Peter Hoeller (Head of Division). The work has benefited from the comments of the European Commission, in particular Jan Schmidt, Mervyn Jones and Marco Buti, and the European Central Bank, in particular Gert Jan Hogeweg, as well as Professor Charles Wyplosz of the Graduate Institute of International Studies, who acted as rapporteur at the seminar, numerous OECD colleagues, including Roman Arjona, Jean-Claude Chouraqui, Andrew Dean, Jørgen Elmeskov, Mike Feiner, Val Koromzay, Giuseppe Nicoletti, Dirk Pilat, Stefano Scarpetta, Paul Swaim, Raymond Torres and Ignazio Visco, and participants in the seminar, in particular Jean-Philippe Cotis, Takatoshi Ito, Danielle Meuwly and John Murray. Statistical assistance was provided by Christine de la Maisonneuve and secretariat assistance by Valérie Luccioni-Lassaut and Celia Rutkoski. The cut-off date for information included in this book is 1 February 2000.

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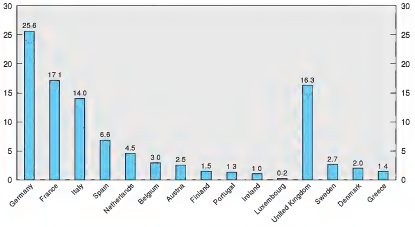
BASIC ECONOMIC STATISTICS
1998

	Euro area	European Union	United States	Japan
LAND AND PEOPLE				
Area (thousands of km²)	2 364	3 191	9 373	378
Population (millions)	290.8	374.6	270.2	126.2
Number of inhabitants per km²	123	117	29	334
Population growth rate (1991-98, annual average, in %)	0.3	0.3	1.0	0.3
Labour force (millions)	128.8	169.3	137.7	67.9
Unemployment rate (%)	10.9	10.0	4.5	4.1
ACTIVITY				
GDP (in $ billion, current prices and exchange rates)	6 467	8 346	8 231	3 784
Per capita GDP (in $, current prices and current PPPs)	21 198	21 647	30 588	23 880
Gross fixed capital formation (% of GDP)	20.2	19.7	19.7	26.2
Exports of goods, excluding intra-area trade (% of GDP)	13.6	10.0	11.0	11.2
Imports of goods, excluding intra-area trade (% of GDP)	12.6	9.9	12.7	9.2
PUBLIC FINANCES (in per cent of GDP)				
General government revenue	48.1	45.2	30.9	30.8
General government expenditure	50.0	46.8	30.5	36.9
General government balance	–2.0	–1.6	0.4	–6.0
Gross public debt (end-year)	73.5	74.1	62.4	97.3
EXCHANGE RATE			$/€	Yen/€
Year average, 1999			1.07	121.3
Start of 1999			1.16	131.3
End-1999			1.01	103.7

EXTERNAL TRADE (main partners, per cent of total flows)

Exports				Imports			
Euro area		**European Union**		**Euro area**		**European Union**	
United Kingdom	18.0	United States	21.0	United Kingdom	15.9	United States	21.2
United States	14.6	Switzerland	7.4	United States	15.1	Japan	9.6
Switzerland	6.2	Japan	4.1	Japan	7.4	Switzerland	6.3
Sweden	3.7	Poland	3.7	Switzerland	5.2	China	5.9
Poland	3.0	Norway	3.3	China	4.5	Norway	3.6
Japan	3.0	Turkey	2.8	Sweden	4.0	Russia	2.7

Share in EU-wide GDP, at current market prices and exchange rates



Overview

The euro's inaugural year has been successful overall

The euro came into being under mixed auspices. On the one hand, convergence efforts in the run-up to monetary union, particularly in the fiscal area, had helped bring inflation and interest rates down to historically low levels. On the other hand, growth, which had only just started to recover in earnest after several disappointing years, was slowing down in the wake of a series of emerging market crises (Chapter I). The macroeconomic policy mix prevailing in 1999 combined monetary easing (Chapter II) and modest fiscal consolidation (Chapter III). It contributed to sustain domestic demand, limiting the extent of the deceleration. With a brightening external environment, growth picked up vigorously in the second half of the year. In hindsight, the new regime's *début* is commendable, especially when recalling the gloomy predictions of some sceptics and taking into account that this first year has been a period of learning-by-doing for all agents. Major challenges lie ahead, however, both as regards long-run fiscal sustainability in the face of population ageing and as regards market structures. The policy trade-offs facing European policymakers are harsher in some important ways than those confronting their counterparts across the Atlantic, because of deeply ingrained labour and product market rigidities (Chapter IV). Those are being addressed in various ways, and tangible progress is being made. Nonetheless, reform efforts should be stepped up to raise economic performance significantly above the record of the 1990s.

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Following a pause during the winter of 1998-99, growth has resumed at a rate exceeding potential…

Growth slowed down markedly in the course of 1998, mostly driven by a weakening of industrial activity stemming from the adverse demand shock imparted by a string of emerging market crises. Export volumes and prices suffered, with "europhoric" exchange rate appreciation adding extra pressure. As a result, real GDP growth almost came to a halt in the winter, just as the euro came into being. The external drag was substantially offset, however, by the sustained dynamism of consumption and investment. Household consumption was supported by strong employment growth, a vigorous expansion of credit for the purchase of durables facilitated by low and falling interest rates, and buoyant stock markets. Investment was spurred by the last two factors as well and barely slackened despite the worsening of business confidence, following several lean years. As the external environment started to improve, and with the euro by then depreciating, industrial output and exports gradually picked up during the first half of 1999. With domestic demand remaining strong, real GDP accelerated and by the third quarter was expanding at a rate well exceeding potential.

… but this turnaround was not immediately obvious to policymakers, due to cross-country divergence and the shift to a new set of national accounts

This felicitous turnaround was not immediately obvious to policymakers, however, and concerns about the economic anaemia lingered into the summer, not least because disquieting conjunctural signals continued to emanate from some of the larger euro area countries. In addition, it was harder than usual to assess trends, due to the relative dearth and uneven quality of euro area-wide statistics as well as to the non-synchronised and piecemeal move of European countries to the new and superior system of national accounts (ESA95). This change led to considerable revisions in some of the key macroeconomic series, and will continue to complicate the interpretation of economic developments in the near future.

Employment has become more responsive and unemployment is declining significantly, albeit from a very high plateau

Encouragingly, measured employment gains per unit of output growth have been much stronger lately than in the past, even exceeding the response witnessed in the United States. This may in part reflect a statistical artefact – notably the improved coverage of the hidden economy in some labour force surveys – and the short-run impact of some government programmes. But it is also likely to be a sign that labour markets are becoming less rigid, as attested by the take-off in recent years of flexible forms of work contracts in countries where they had heretofore been a rarity, and the reward for several years of wage moderation in a number of countries. Employment grew sufficiently to reduce unemployment from its 1994-97 plateau of 11½ per cent of the labour force to 9¾ per cent by the last quarter of 1999. This very high level of joblessness has contributed to wage and price discipline, although this effect should not be overstated, given the large share of long-term unemployment. Overall, labour market performance remains very uneven across countries, not least because progress with reform in this area varies a lot. Stark differences across regions have also tended to persist.

At the same time, consumer price inflation has remained relatively low and stable, notwithstanding substantial relative price shifts

By the time the euro was launched, area-wide consumer price inflation had been hovering just under one per cent for several months. During the first year of monetary union, it remained relatively low and stable, especially when abstracting from the more volatile components of the index, such as energy and food prices. Cross-country differences remained noteworthy but not out of line with experience in the United States. This overall stability masked some sizeable shifts in relative prices, however, with technology and intensified competition driving down absolute prices in some sectors, such as telecommunications. It was also accompanied by rapid price increases in a number of asset markets, especially in the geographically peripheral and fast-growing countries, where housing and stock market prices rose quickly enough to trigger concerns about the development of asset price bubbles.

The changeover to the new currency went smoothly but capital market integration is far from complete

On 31 December 1998, the conversion rates of the currencies of the 11 countries ready for Stage III of EMU were frozen and the euro formally came into being. While the changeover for banknotes and coins is to take place only in 2002, national currencies are now no more than different denominations of the single currency. From a technical standpoint, and thanks to intensive preparatory work, the transition proceeded remarkably smoothly. The few teething problems were promptly overcome, and the euro money market took off as planned. The new set-up – two standing facilities, remunerated required reserves and

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interconnected settlement systems – has functioned well. The dispersion of money market rates rapidly became minimal, and now reflects the standing of credit institutions rather than country-specific factors. Integration is taking place more gradually in the bond markets, notwithstanding a surge in euro-denominated issues, launched mostly from euro area countries but also on international and overseas markets. Integration remains far from complete as regards equity and bank lending markets, reflecting regulatory, tax, information and other forms of segmentation. Room therefore remains for further capital market integration to improve allocative efficiency and hence growth prospects, and to homogenise transmission mechanisms across countries, which would provide for more similar reactions to single monetary policy decisions.

The Eurosystem's accommodative policy stance and cautious posture have given growth a good chance

At the time of the launch of the euro, nominal interest rates had come down to historically low levels, and real rates had declined sharply. In part, relaxed monetary conditions rewarded the convergence efforts undertaken in the run-up to the single currency, but they also reflected concerns about the impact of the adverse emerging market shocks on activity. As evidence of a disquieting slowdown mounted and long-standing worries about inflation started to give way to deflation *angst,* and notwithstanding the steady depreciation of the euro since January, the Eurosystem cut its main refinancing rate by 50 basis points, to 2½ per cent, in April. The stance of monetary policy was thus accommodative during the first half of 1999. Long-term interest rates rose steadily during that period, as they did in the United States. From the spring, the resulting steepening of the yield curve also reflected the signs of a pick-up in euro area activity. The Eurosystem left policy rates unchanged through mid-autumn, thus refraining from attempts at fine-tuning. In a context where the uncertainties associated with the external environment were compounded by those plaguing the national accounts and those stemming from the regime shift, "coarse-tuning" was indeed safer than activism. By early November, however, the vigour of the recovery in activity, the pick-up in some price indices, the buoyancy of credit and money, and the associated upward shift in the balance of risks to future price stability prompted the Eurosystem to fully reverse the April cut in the main refinancing rate. Monetary and financial conditions nonetheless remained fairly accommodative, all the more so as in the wake of the move, the euro continued to weaken.

However, communicating the merits of the Eurosystem's strategy and pragmatic policy choices has been challenging

The monetary strategy announced in late 1998 sets price stability over the medium term as its ultimate objective, defining it as an annual increase in the harmonised index of consumer prices of below 2 per cent. It gives money a prominent role, signalled by the announcement of a reference value for M3 growth (the "first pillar"), but it also rests on the monitoring of a broad set of real and financial sector indicators (the "second pillar"). In effect, the strategy has been relatively eclectic and has been applied rather pragmatically. The conduct of policy was less focussed on monetary aggregates than some had expected, since their rapid expansion, and the concomitant double digit growth of credit to the private sector, did not trigger any interest rate hike before activity was clearly felt to be healthily recovering. This was consistent with the Eurosystem's own statements, which emphasised that monetary policy would not respond mechanically to monetary developments but rather be based on the information content of money for future prices in parallel with other indicators. Also, again consistent with the Eurosystem's own statements, the definition of price stability turned out to be more symmetrical than alleged *ex ante* by a number of critics. Furthermore, the absence of an exchange rate target avoided a most unpleasant conflict of priorities in the first half of 1999. Conveying the merits of the framework and of the policy decisions to various audiences was a challenge, however, all the more so as this inaugural year was a period of learning for all the parties involved, and the Eurosystem's words and deeds were subjected to a degree of scrutiny that no European national central bank had ever experienced. One of the difficulties, especially in the first half of the year, was to communicate with one voice, or at least one message, on the exchange rate. Contrasting with the abundance of statements on the euro, specifics on the macroeconomic projections underpinning the Eurosystem's decisions were and remain elusive. The more general debate on the appropriate degree of transparency and accountability of the Eurosystem also continued unabated during 1999.

The Eurosystem's strategy may have to evolve, and there is room for more information disclosure

Some of the criticisms levelled at the Eurosystem have failed to duly take into account the unique and unavoidable complexity of the institutional set-up, which therefore cannot in all respects be directly compared to the United States Federal Reserve or the Bank of England – which besides differ considerably from one another. Even so, some changes are probably desirable. The acknowledged interpretation problems surrounding the evolution of monetary aggregates are not about to vanish, as some major financial innovations lie ahead, including the introduction of cash euros in 2002 and the likely associated partial switch on the part of cash holders outside of the euro area from dollars into euros. Hence, it may be sensible to de-emphasise M3 and to define a range, rather than a reference value for money growth. At the same time, as experience with the harmonised index of consumer prices builds up, it may become easier to consider moving to a more explicitly symmetric inflation objective, possibly centred somewhere in between 1 and 2 per cent. At the same time, and in line with the intentions expressed by some Eurosystem officials, it would seem useful to publish the Eurosystem's own projections for a number of macroeconomic variables as they become more firmly based than they have been initially. At a later stage, the publication of the European Central Bank's macroeconomic models and views on monetary transmission would also be welcome. The new regime is still in its infancy, and some acid tests still lie ahead, including when headline inflation approaches or exceeds the 2 per cent mark.

Besides, supervisory arrangements may need further strengthening

Whereas monetary policy has been centralised, banking supervision remains largely decentralised. Co-operation between national supervisory authorities has been stepped up, but coping with bank failures remains a national responsibility. Moreover, supervision standards and practices are not uniform across countries, even though they have been considerably harmonised since the 1970s. In a context of intensifying competition and shrinking revenues from cross-border payments, and as pan-European universal banks start to emerge, the optimality of this set-up is being questioned on a number of grounds. Some note that the current set-up does not exploit to the fullest the economies of scale and scope in regulation and compliance nor the complementarities between monetary policy and supervision – although at the same time it arguably reduces potential conflicts of priorities between the two. Incentive problems may also arise, the critics contend, because national regulators are close to the institutions they supervise – although on the other hand physical proximity may also mean better knowledge of those being supervised. Lastly, some fear that co-ordinating emergency liquidity assistance would likely be more complicated and slower than in a more centralised framework. While some of the arguments put forth against the current set-up tend to cut both ways, further efforts are called for in the short run with respect to the harmonisation of accounting and risk provision rules, more frequent and timely centralisation of information on banks' country risks and refining and stress-testing market risk management models. In the longer run, the question might remain whether supervision should be carried out more squarely at a European level – a possibility the Treaty on the European Union allows for – and perhaps jointly for commercial banking, investment banking, insurance and asset management activities.

Multilateral surveillance of national fiscal policies has been intensified with the stability and convergence programmes

Fiscal policy remains essentially a national prerogative, in contrast with the single monetary policy. Multilateral surveillance, however, has been intensified in the context of the Stability and Growth Pact (SGP), which sets countries a medium-term objective of a fiscal balance close to zero or in surplus, with a view to restore the room needed for fiscal automatic stabilisers to operate freely in response to symmetric or asymmetric shocks. In 1998 and early 1999, countries submitted their first multi-year programmes, so-called stability programmes for euro area "ins" and convergence programmes for the "outs". Taking into account the Commission's recommendations, the Council adopted an opinion on each of them. It deemed that, while countries were indeed targeting a small deficit or a surplus at the 2001-02 horizon, more ambition was in order for most of them, be it to better withstand possible unpleasant interest rate or fiscal surprises, or to prepare for looming demographic pressures on the budget. Besides, some of the programmes suffered from elliptic quantification, a lack of specificity as to the (sometimes rather back-loaded) adjustment measures underlying the projections, and overly optimistic growth forecasts. Updated programmes have started to be submitted, factoring in estimated 1999 outcomes. A few are slightly more ambitious than the initial vintage, and none to date is significantly less so. Efforts nonetheless remain warranted to ensure that the budgetary information contained in the programmes is up-to-date, sufficiently detailed and based on common standards. In this respect, it may be desirable for countries to adopt their updated programmes at the time or shortly after the adoption of their annual budget proposals or medium-term budgetary strategy. It would also be prudent to base the fiscal projections on a reasonably cautious but realistic macroeconomic scenario, as is done in the United Kingdom or, outside Europe, Canada, all the more so as the ongoing transition to ESA95 widens the scope for measurement and forecasting errors. Excessive caution, however, should not be allowed to become a pretext for lack of ambition, and an indication of how the possible "growth bonus" would be allocated is also in order.

Fiscal consolidation is proceeding, but at an overly gradual pace,...

The OECD deficit and debt projections for the euro area as a whole are broadly in line with those in the initial programmes. Consolidation is projected to continue, with the deficit shrinking to 0.8 per cent of GDP in 2001, and the debt ratio declining to just under 70 per cent. This would bring the deficit back to levels last witnessed in the 1960s, but accompanied by a much higher debt ratio. The tax reforms underway in several countries would contribute to easing tax pressure broadly defined by 0.8 percentage point of GDP over the next two years, from a 1999 peak of 46 per cent of GDP. Public expenditure would decline more rapidly, and would end up 5 percentage points below its 1993 peak, which constitutes welcome progress. Adjusting for the estimated effect of the economic cycle on revenue and outlays, however, the projected tightening is more limited, amounting to only 0.4 percentage point of GDP between 1999 and 2001. Moreover, the bulk thereof consists of a projected drop in interest payments. A few countries already enjoy budget surpluses, even on a cyclically-adjusted basis, but may nonetheless need to tighten the fiscal stance in order to contain overheating pressures in a context where the monetary stance depends on euro area-wide cyclical conditions. While the modest pace of underlying consolidation may partly reflect "Maastricht fatigue", as well as a concern in some cases to support aggregate demand, several countries remain uncomfortably close to the 3 per cent deficit ceiling and quite vulnerable to an adverse interest rate or other shock. This has prompted proposals to somehow circumvent this constraint. It has been suggested to use part of the central banks' foreign exchange or gold reserves to fund public spending, to target saving rather than the deficit, or to allocate tradable rights to deficit creation mimicking pollution permit trading schemes. However ingenious these schemes may appear, fiscal consolidation remains a priority for a number of countries, independently of EMU, and a strict interpretation of the 3 per cent criterion remains warranted. The unfortunate experience of the fiscal relapse a decade ago, even as debt levels were still relatively modest, serves as a stern reminder.

... with momentous longer-run fiscal challenges lying ahead that need to be anticipated

European countries not only need to restore room for the automatic stabilisers, but they also face longer-run challenges, particularly as regards recorded and implicit public debt. In those countries where the ratio of gross public debt to GDP far exceeds 60 per cent, it ought to clearly remain on a declining path. This implies that highly-indebted countries, such as Italy and Belgium, would need to realise the surpluses they project. Further privatisation operations would also help in speeding up debt reduction. Moreover, on top of the debt burden that is already explicitly reflected in the national accounts, most European Union countries face commitments to future outlays that on current policies exceed future fiscal revenue. To a large extent, this imbalance stems from the forthcoming increase in dependency ratios, starting from a situation where employment rates of older workers are generally low. Estimates of those looming additional liabilities vary considerably depending on the methodology and base year, but for most countries they tend to suggest that the recorded debt understates the potential "negative bequest" of current to future generations, in some cases very dramatically so. Working down both sorts of debts will help avert the risk that confidence in the euro be undermined by doubts about fiscal sustainability. It requires serious social security system reforms, such as have been enacted in Finland and Sweden for instance, and more fiscal ambition upfront. Other countries, *e.g.* Italy, have also enacted serious reforms, but significant further changes will be needed.

Europe has under-performed on output and employment since the 1970s

Looking back at the last three decades, the rise in living standards slowed down more in what was to become the euro area than in the United States. The 1990s were especially disappointing in this regard. Against this background, the previous EMU study analysed product and labour markets in the euro area and argued that reforms would help to adjust to economic disturbances more swiftly and at a lower cost. The discussion here starts from a somewhat different angle and revolves around three major issues: Why has Europe not performed better? Do microeconomic rigidities influence the conduct of macroeconomic policy? And will EMU spur policy reforms?

Europe's disappointing medium-run performance has stemmed from the under-utilisation of human capital

Why has Europe not fared better compared with the other side of the Atlantic? Slow productivity gains are not the culprit. On the contrary, following three decades of catch-up, output per hour worked in the euro area has nearly converged to the level in the United States. Yet, GDP per capita in the euro area remains around one-third below the level in the United States. In fact, the wide gap can be largely ascribed to stagnating labour force participation rates in Europe, persistently rising unemployment and shortening working hours. As emphasised since the mid-1990s in successive OECD *Jobs Strategy* publications, raising the low level of labour resource utilisation in the euro area requires a comprehensive set of labour and product market reforms. The European Union has responded to these challenges by agreeing at the 1997 Luxembourg Jobs Summit on the *European Employment Strategy*. It revolves around four pillars (employability, entrepreneurship, adaptability and equal opportunities), focuses on common objectives, the Employment Guidelines, and is followed through at the country level via national action plans.

Heterogeneous institutions propagate and perpetuate common shocks differently

Turning to microeconomic rigidities, some institutions, such as high minimum wages or out-of-work benefits that are generous relative to in-work income, have a direct impact on structural unemployment by imposing a wage floor or raising workers' reservation wage. For many others, however, the impact is more indirect. They often reduce market flexibility, in particular by lowering the adjustment speed of price mark-ups and real wages and by raising the persistence of unemployment. Together, labour and product market regulation, competition policies, wage bargaining arrangements and tax and benefit systems shape the overall degree of market flexibility and play a key role in the propagation of exogenous and macro policy shocks. Accordingly, differences in institutions and policies can partly explain why similar shocks – be they the oil price hikes of the 1970s, the emerging economies crisis shock of 1997-98, or possible future common exogenous disturbances – affect the level and persistence of unemployment asymmetrically across countries. Policies have evolved over the last decade, albeit slowly in quite a few countries, and the advent of EMU itself is likely to have influenced the behaviour of market participants. This has probably contributed to the recent rise in the employment content of growth in many countries. Moreover, countries that have moved decisively in the direction prescribed by the *Jobs Strategy*, such as Denmark, Ireland, the Netherlands, and the United Kingdom, have indeed reaped sizeable gains in the form of better labour market performance, while in Austria and Portugal the labour market situation never deteriorated significantly. The OECD's work on product and labour markets suggests that there remains ample room for further improvement in most countries and that the right set of labour and product market policies could boost growth considerably.

Structural rigidities have made for more painful trade-offs...

Such reforms would help achieving stronger growth with low inflation over the medium term. Structural conditions affect the economic impact of macroeconomic policies and their credibility, for instance, the sacrifice in terms of lost output and employment required to realise monetary and fiscal objectives. Specifically, one of the implications of slower structural adjustment is to raise the loss of output incurred by disinflation following an adverse price shock. Unemployment will have to rise more or longer, with an increased risk of a temporary policy tightening permanently pushing up unemployment. While aggregate price and wage rigidities may slow the pass-through of deflationary impulses stemming from negative demand shocks and thereby support total demand, they could make for a protracted adjustment in a euro area country following an episode of overheating and sizeable competitiveness losses.

... which cannot be fully compensated through macroeconomic policy management

It has been argued that the adverse consequences of structural rigidities on the sacrifice ratio could be partly compensated by higher macroeconomic policy credibility. In practice, this is at odds with the German experience after unification, and the task of maintaining high policy credibility may be undermined by pressures on the authorities to loosen fiscal and monetary policies at times when unemployment is above socially acceptable levels. Within each country, demand is now influenced by both the overall setting of monetary policy for the euro area, and by fiscal policy which remains under national control. Fiscal policy is now assigned a relatively more important role in managing demand in each country. It may prove difficult to fulfil this role, as it is not easy to adjust budgets quickly and by sizeable amounts during the budget year. It will probably also not be easy to tighten fiscal policy in times when the fiscal balance is in or heading towards a surplus.

Co-ordinated product and labour market reforms and the advent of the euro will facilitate area-wide macroeconomic policy

These concerns should gradually recede as the single market deepens and as co-ordinated national labour and product market reforms are stepped up. The advent of the euro could also accelerate change. However, the benefits of product and capital market integration in facilitating the conduct of macroeconomic policy may remain limited unless the process of integration spreads to labour markets. In contributing to the perpetuation of structural differences between Member States, labour market segmentation slows the convergence of structural rates of unemployment across countries. Moreover, in the presence of aggregate non-linearities, the wider the dispersion of structural unemployment rates across the segmented labour markets, the higher the area-wide unemployment rate will be to maintain price stability.

Will EMU speed up structural reforms?

While the benefits of product market integration may not be fully reaped unless they are accompanied by greater labour market integration, it is possible that over time greater competition in goods and services markets could lead to pressures for higher wage flexibility and/or labour mobility. In particular, introduction of the euro, which has eliminated intra-area exchange rate risk and boosted price transparency, is likely to enhance product market competition and may therefore add to pressure for labour market reform. More generally, as the option of using the exchange rate to restore domestic competition following an adverse shock is no longer available, the need to rely on alternative adjustment mechanisms could raise the political support in Member States for bold labour market reforms. Political support has already risen, as shown in the European Union-wide co-ordination of labour market policies via national action plans. Nevertheless, intensified competition could imply significant and overdue industrial restructuring in previously sheltered sectors. This could in turn give rise to counter-productive competition among Member States in the form of defensive industrial support policies or generate demands for greater European Union-wide harmonisation of social policies. Yet, experience in some Member States has shown that the combination of low labour mobility and the harmonisation of wage floors and benefits for the unemployed may contribute to persistent regional labour market imbalances, especially where significant regional productivity differentials exist.

The outlook for the second and third year of EMU is favourable, provided the pace of structural reform is stepped up

At the start of the second year of monetary union, confidence remains high and macroeconomic prospects again look favourable. The aggregate output gap is projected to be eliminated over the next two years, which would be the first time in almost a decade. While at some point this might start to feed inflationary pressures, the pace of consumer price increases is projected to stay below 2 per cent on an annual average basis, helped by a gradually firming macroeconomic policy stance. Wage moderation, if sustained,

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would limit the needed tightening of monetary policy, and would promote employment and hence growth. Better enforcement of the single market legislation that in most countries has now been almost fully transposed would help as well. In this regard, room for progress is particularly conspicuous in such areas as opening up network sectors and public procurement, limiting state aid and improving the legal and regulatory framework for business creation and development. Apart from possible domestic sources of tension, some external risks surround the OECD projection, notably that the United States would experience a harder landing than currently foreseen, or that the recovery in Japan and more generally Asia would be derailed. Looking further ahead, the pace and modalities of enlargement of the European Union and of the euro area are uncertain but will have economic implications. In sum, while some testing times may still lie ahead for the new policy regime, it has made a solid start. The brighter conjunctural outlook provides a golden opportunity to step up structural reforms so as to create the conditions for the ongoing recovery to develop into a long-lasting period of vigorous growth, rising living standards and falling unemployment.

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I. Recent developments and prospects in the euro area

Economic and Monetary Union (EMU) formally came into being at a time when growth in the euro area was marking a pause. Fortunately, the latter did not last and activity soon picked up, helped by an improving external environment as well as accommodating monetary conditions coupled with a broadly neutral fiscal stance. By the summer of 1999, output was expanding at a rate exceeding potential. Prospects over the next two years look favourable, with an output gap projected to close towards the end of 2001 in a context of subdued inflation and falling unemployment. This chapter analyses recent developments in demand and supply, employment, prices and the external balance, and presents projections for the second and third year of monetary union. Some attention is devoted along the way to the evolution of cross-country convergence or divergence because, as discussed in the subsequent chapters, this has important implications for the conduct of policies.

Growth slowed in 1998 but has regained strength since

GDP growth slowed down significantly in the course of 1998, pulled down by industrial production, which bore the brunt of the adverse demand shock associated with the string of emerging market crises of 1997-98 (Figure 1). Policy-makers were thus facing a disquieting weakening of activity at the turn of 1998-99.[1] In addition, the usual degree of uncertainty surrounding the key national accounts indicators was compounded by the piecewise and non-synchronised move of European countries to a new system of accounts (Box 1). By mid-1999, however, growth could be seen as unambiguously picking up. Industrial output in particular experienced a broadly based rebound. Real GDP growth doubled between the second and the third quarter, to over 4 per cent in annualised terms. Early information on the fourth quarter points to continued momentum.

Looking across countries, it appears that growth rates have not tended to unambiguously converge since 1992 (Figure 2). The standard deviation of national growth rates has been on a declining trend since 1997 but was not lower in 1999

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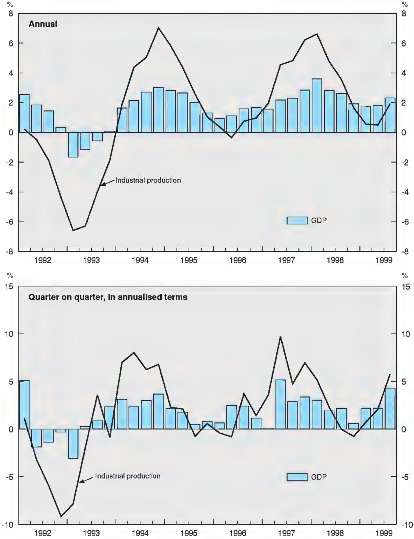
Figure 1. **Supply**
Percentage changes



Source: Eurostat.

Box 1. Shifting to ESA 95: national accounts in transition

Most EU countries have now released new national accounts series based on the 1995 European System of Accounts (ESA 95), with a view to harmonise them and to improve their relevance in the context of growing economic and monetary integration. The impact of this overhaul cannot yet be comprehensively evaluated, since progress from the old to the new system is uneven across countries and is not expected to be fully completed before 2005, but it is in many ways substantial. To the extent possible, the data, estimates and projections appearing in this study reflect these changes.

The main changes include: adding prominence to chain-linked constant price estimates, in order to more swiftly reflect the impact on volume growth of relative price changes; more systematically using accruals as opposed to cash-based measures, notably as regards interest and taxes; better distinguishing between actual final household consumption (partly financed by government) and consumption expenditure; improving the treatment of services; broadening the concept of investment, which henceforth encompasses such items as outlays on computer software and mineral exploration (although not R&D expenditure at large) and purchases of military machinery, equipment and buildings which may be used for civilian purposes; applying depreciation to public infrastructure; changing the treatment of some taxes, fees and subsidies; and efforts to better capture the grey economy. At quarterly frequencies, the introduction by some countries of adjustments for the number of working days (on top of the usual seasonal adjustments) modifies the anatomy of the national accounts. In addition, different samples are used in the new set-up (*e.g.* to measure rents or employment), which further complicates the interpretation of the changes, and there are changes in the geographical scope to include, for example, the French overseas *départements*.

The transition to ESA 95 generally tends to raise the reported level of GDP, but not uniformly over time. For the new base year 1995, the level of GDP is increased by an estimated 1.9 per cent for the euro area as a whole. The growth record is also altered: in Germany for instance, the average annual growth rate over the five years following the 1993 recession is reduced by a quarter of a percentage point, with performance in 1998 cut by a full half point; likewise, France's recovery through 1997 is weaker. In contrast, the depth of the recession in the early 1990s is somewhat lessened in both countries. The same holds for the euro area as a whole, albeit less starkly. At the quarterly frequency, discrepancies are at times larger, although not large enough to transform the overall cyclical profile.

Turning to GDP components, the use of a more recent base year generally implies a larger weight for services, which tends to smooth the measured economic cycle, given that the production of services displays more inertia than that of industrial or agricultural goods. Investment is lifted very significantly, boosting both the level of GDP and the ratio of capital formation to GDP. Private consumption is generally lower and public consumption much higher. External trade flow measures undergo first-order changes as well, not least due to a different treatment of transit trade, typically causing the share of exports and imports in GDP to increase significantly (especially in the Netherlands). Financial balances are also affected: in France, the 1995 fiscal deficit ratio is increased by 0.8 percentage point (mostly owing to a reclassification of operations associated with the bail-out of Crédit Lyonnais); in France and Denmark,

(continued on next page)

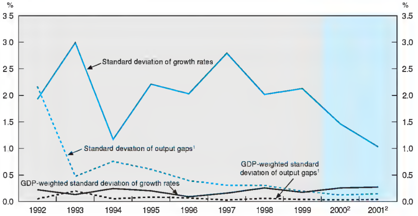
(continued)

business finances look less strong due to a different treatment of debt write-offs; household saving ratios are also altered, although not always in the same direction. Measures of tax pressure are affected too, with the overall burden lowered by around one percentage point in France.

As regards the procedures under the Stability and Growth Pact (see Chapter III), the changeover to ESA95 is being made for the first time for the March 2000 notification.

than in 1992. Weighted by the size of the economies, the dispersion does not exhibit any obvious trend during the 1990s. Output gaps have tended to become more similar since the early 1990s although again, once weighted by economic size, the dispersion does not show much of a convergence. The relative position of national growth rates (and output gaps) *vis-à-vis* the euro area average has not changed much in 1999 compared with 1998: the geographically peripheral countries – Ireland, Finland, Spain, Portugal and the Netherlands – have continued to record faster growth, whilst activity in Germany and Italy remained more anaemic, and France, Belgium and Austria closer to the area average.

Figure 2. **GDP dispersion**



1. Excluding Luxembourg.
2. OECD projections.
Source: OECD Secretariat.

Domestic demand, and household consumption in particular, was more resilient than output during the slowdown (Figure 3). To some extent, this stemmed from continued and substantial employment growth (see below). It was also helped by a vigorous expansion of credit to households, at a rate approaching double digits in 1999, and by a buoyant stock market, which rapidly recovered from the impact of the August 1998 Russia crisis (Figure 4). Supported by low and falling interest rates, investment growth also proved resilient, barely slackening in the business sector – notwithstanding a somewhat bumpy quarterly profile – and even rising significantly in residential construction (spurred, in some countries, by temporary tax incentive schemes). As a result, the share of business investment in GDP, which had dropped sharply during the recession of the early 1990s, has continued to rise. Furthermore, government consumption picked up somewhat in 1998, contributing to cushioning the external blow.

Euro area export volumes and prices suffered during the second half of 1998, as a result of slowing export market growth and exchange rate appreciation (Figures 5 and 6), and stagnated during the first half of 1999, notwithstanding the depreciation of the euro. On a customs basis, the value of exports of goods, expressed in euros, declined by 2 per cent between the first half of 1998 and the first half of 1999. Some euro area countries were affected more severely than others, reflecting the geographical and sectoral structure of their exports beyond euro area borders: Germany and Italy in particular recorded larger than average declines, presumably owing to their greater exposure to Eastern Europe and Asia and their relative specialisation in intermediate goods. The value of services exports, as compiled by the European Central Bank, also declined by around 2 per cent.

In value terms, euro area imports tended to decline as well during 1998, but less markedly. On a customs basis, goods imports were up only slightly in the first half of 1999 compared with a year earlier. Import prices declined so steeply in the course of 1998 (by some 11 per cent) that, notwithstanding the rise in oil prices and the depreciation of the euro in the first half of 1999, they were still far below their early 1998 levels by summer. Import volumes instead stayed on an upward trend throughout, reflecting strong euro area domestic demand. The value of services imports increased modestly in the first half of 1999.

As a result, the surplus on trade in goods shrank by 0.4 per cent of GDP between the first half of 1998 and the first half of 1999, to 0.8 per cent (on a customs basis).[2] At the same time, the balance on services declined by 0.1 per cent of GDP, turning into a small deficit. Those developments were largely offset by the other components of the current account, implying that the current account surplus decreased only marginally (Table 1). The financial account of the balance of payments recorded a significant net outflow during the first half of 1999, reflecting net portfolio and direct investment outflows exceeding 4 per cent of GDP.

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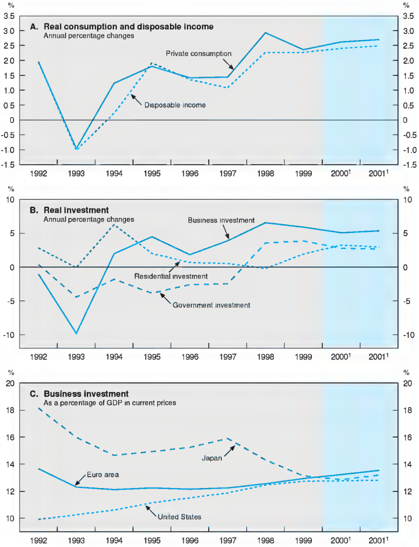
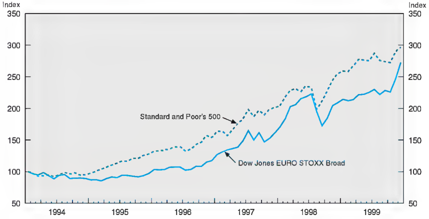
Figure 3. **Demand**



1. OECD projections.

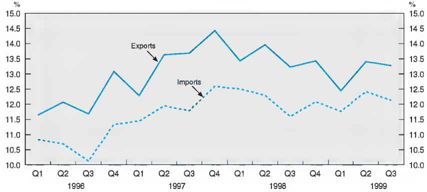
Source: OECD Secretariat.

Figure 4. **Stock markets**
January 1994 = 100



Source: European Central Bank.

Figure 5. **Foreign trade**[1]
Goods, in per cent of GDP



[1] Exports are f.o.b. and imports c.i.f. Due to differences in definitions, coverage, time of recording, and treatment of insurance and freight services (included here in goods imports), the data do not exactly match those appearing in the balance of payments table of this chapter.

Source: Eurostat

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Table 1. **Euro area balance of payments**

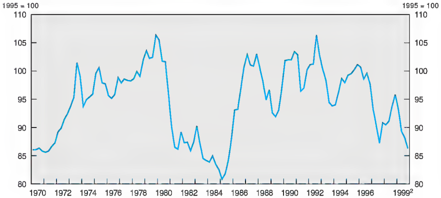
In billions of euros[1]

	1998				1999		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3
Current account	**8.0**	**22.6**	**15.5**	**14.2**	**11.9**	**14.8**	**7.9**
Goods	22.7	33.1	32.0	31.0	21.5	24.8	26.6
Exports	189.5	197.7	189.4	195.7	179.7	193.1	199.9
Imports	166.9	164.6	157.4	164.7	158.2	168.2	173.2
Services	–1.9	2.6	–0.4	–1.2	–3.2	0.2	–1.1
Exports	52.8	59.4	61.6	58.1	50.7	59.3	62.5
Imports	54.7	56.8	62.0	59.3	53.9	59.1	63.6
Income	–1.9	–4.0	–3.7	–2.3	–0.8	–0.9	–3.0
Credit	48.6	52.0	47.5	50.3	45.5	56.8	46.8
Debit	50.6	56.0	51.2	52.6	46.3	57.8	49.8
Current transfers	–10.8	–9.1	–12.5	–13.4	–5.5	–9.3	–14.6
Capital account	**4.9**	**1.0**	**3.1**	**3.7**	**2.8**	**3.4**	**1.6**
Financial account[2]	**–14.1**	**–3.3**	**–15.6**	**–36.2**	**–33.1**	**–28.3**	**–6.7**
Direct investment	–12.1	–14.0	–20.0	–56.5	–15.6	–52.6	–23.3
Abroad	–48.4	–39.3	–25.3	–70.0	–36.3	–76.9	–26.9
In the euro area	36.3	25.3	5.3	13.5	20.8	24.3	3.6
Portfolio investment[2]	–53.4	–1.0	8.8	–39.7	–54.7	–7.0	29.8
Assets	–103.2	–77.3	–60.2	–61.4	–65.3	–85.6	–64.3
Liabilities	49.8	76.2	69.1	21.7	10.7	78.6	94.1
Financial derivatives[2]	0.1	–4.1	1.1	–5.3	–1.4	–0.6	1.5
Other investment[2]	52.5	15.5	–8.2	58.7	33.0	25.3	–16.1
Reserve assets[2, 3]	–1.2	0.4	2.6	6.7	5.5	6.6	1.4
Errors and omissions[2]	**1.2**	**–20.3**	**–3.0**	**18.3**	**18.4**	**10.1**	**–2.9**
Memorandum item:							
Current account balance in per cent of GDP	0.6	1.6	1.0	0.9	0.8	1.0	0.5

1. ECU billions to end-1998. Inflows (+), ouflows (–).
2. Data before end-1998 are not closely comparable with later observations.
3. Reserve assets: increase (–); decrease (+).

Source: European Central Bank, OECD Secretariat.

Figure 6. **Competitiveness**[1]
1995 = 100



1. Real effective exchange rate deflated by the CPI. A fall represents an improvement in competitiveness.
2. OECD estimates.

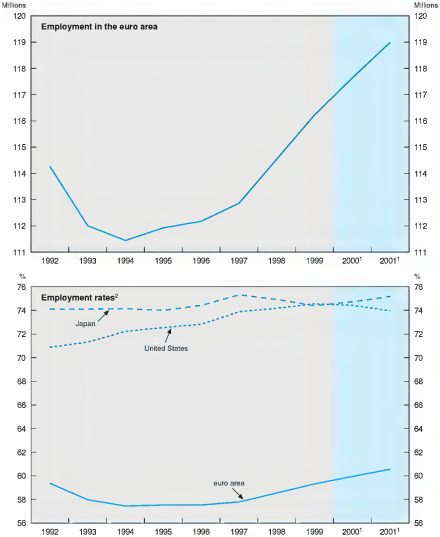
Source: OECD Secretariat.

The current account surplus declined sharply in the third quarter of 1999. Exports firmed, underpinned by the dynamism of foreign demand and the euro area's very favourable level of cost competitiveness (both compared with late 1998 and in a longer-run perspective), but so did imports, largely owing to rising oil prices. In contrast with the first half of 1999, the outflow on the financial account was minimal, owing to a contraction in net foreign direct investment outflows and an increase in net portfolio inflows, probably related to the brightening of the economic outlook for the euro area.

Employment has become more responsive to output growth, but unemployment is still very high

Despite the fact that output growth has been much less vigorous in 1998-99 than during the expansion of the late 1980s, employment growth has been stronger this time. Indeed, the responsiveness of employment to real GDP has doubled in the interval. Whereas a decade ago it was lower than what has been observed in the course of the expansion in the United States during the 1990s, it is now far higher. The dynamism of job creation in 1998-99 also contrasts sharply with the very modest pace of employment growth between 1994 and 1997 (Figure 7). To some extent, this greater responsiveness reflects transitory factors:

Figure 7. **Employment**



1. OECD projections.
2. Employment as a per cent of working age population.

Source: OECD Secretariat.

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growth has been mainly driven by domestic demand, which gives rise to more labour-intensive output than exports; some government programmes (notably in France and Germany) have boosted employment figures; and wage moderation has helped: unit labour costs in the euro area have been much more subdued in recent years than a decade ago and compared with the United States. This enhanced responsiveness, however, may also result from deeper, structural changes: there may have been an acceleration in the long-run demand shift towards more labour-intensive service sectors; and labour markets, *de jure* or *de facto*, are becoming less rigid: the relaxation of restrictions to, or positive incentives provided for part-time, fixed-term and temporary jobs as well as the cuts in taxes on low skilled labour have worked in this direction.[3] Against this background, the employment rate has risen, approaching 60 per cent. However, it remains about 15 percentage points below the levels witnessed in the United States and Japan, the contrast being starkest for older (55-64) and younger (15-24) people.[4]

Employment growth has been sufficiently strong to reduce unemployment significantly, from a plateau of about 11½ per cent in 1994-97 to 9.6 per cent at the end of 1999 (Figure 8). This level remains dismally high, however. Moreover, the composition of unemployment remains problematic, with over half still representing long-term joblessness (*i.e.* over 12 months). In the light of the severity of the problem, several initiatives have been launched in recent years, including the drawing up of annual *Employment Guidelines* which have been followed up by Member states in National Action Plans and, more recently, the creation of a framework for macroeconomic policy dialogue between policy-makers and social partners (see Annex I).

The dispersion of unemployment rates across countries, which had dropped sharply through 1997, increased somewhat in 1998 but remains far below its level in the early 1990s. In several of the smaller countries, unemployment is low, at between 2½ and 4½ per cent of the labour force, but in a couple of others and in the larger countries, it lies between 9 and 11 per cent (with Spain an outlier at 15 per cent). The dispersion of unemployment rates within countries continues to be stark, especially in Italy and Germany, well exceeding that observed in the United States.[5] Regional differences are also more persistent than in the United States, reflecting lower labour and capital mobility and more rigid wages. A higher dispersion within countries or area-wide may entail a higher national or area-wide non-accelerating inflation rate of unemployment (NAIRU), as inflation pressures arising during an upturn in low unemployment areas could spill over to regions with more labour market slack. This has been witnessed in Italy for instance, where national wage bargaining outcomes have tended to reflect conditions in the low-unemployment North, but also in Germany and Spain. For a given average rate of unemployment, a higher dispersion also tends to increase the social cost of joblessness.[6]

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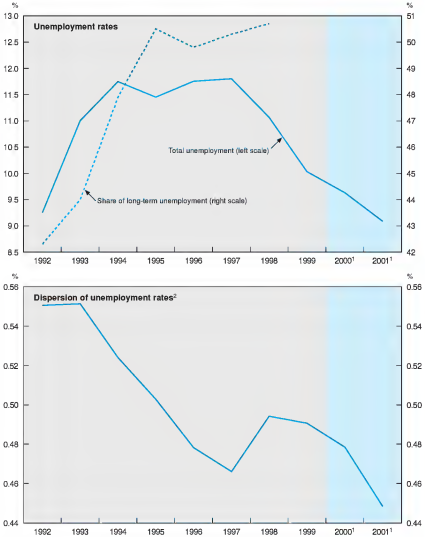
Figure 8. **Unemployment**



1. OECD projections.
2. Coefficient of variation.

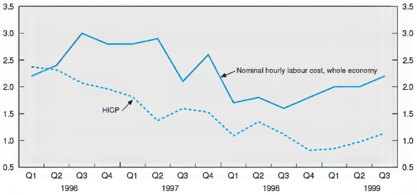
Source: Eurostat and OECD Secretariat.

Inflation has troughed and is picking up

Convergence efforts during the run-up to the single currency contributed to bringing inflation down to levels not seen in decades. The drop in commodity prices in 1998 worked in the same direction. So has, and will, the intensification of competition in a number of service sectors that are being gradually liberalised, at a pace varying across but also within countries.[7] Those include telecommunications (with a 5 per cent drop in prices between mid-1998 and mid-1999) and, more recently, electricity. Wage moderation has also helped (Figure 9). As a result, annual inflation as measured by the headline harmonised index of consumer prices (HICP) remained below 1 per cent most of the time between mid-1998 and mid-1999 (Figure 10). Excluding the more volatile food and energy prices, underlying consumer price inflation declined by about 25 basis points during that period, to around 1 per cent. Since mid-1999, headline HICP inflation picked up, reaching 1.7 per cent in December, but this largely reflected rising oil and other commodity prices. Indeed, underlying HICP inflation remained virtually flat. Meanwhile, industrial producer price inflation, which had turned negative in 1998, was back in positive territory by August 1999, overtook consumer price inflation in September and reached 4 per cent by December.

Figure 9. **Labour costs**

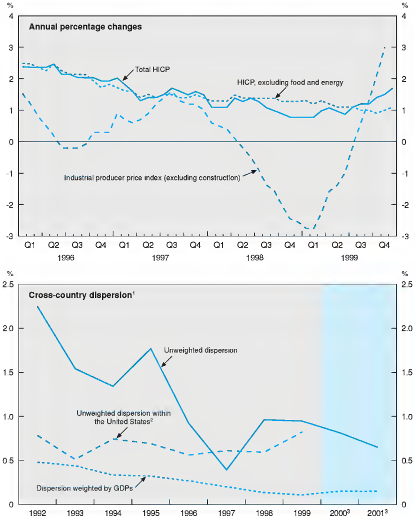
Percentage changes over corresponding quarter of previous year



1. Labour costs include gross wages and salaries, employers' social security contributions and taxes net of subsidies connected to employment. Enterprises of all sizes are included as well as full-time and part-time employees and apprentices.

Source: Eurostat.

Figure 10. **Inflation**

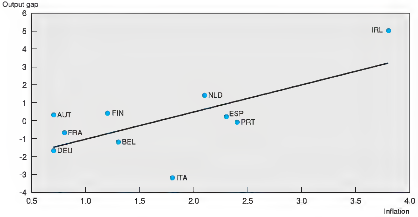


1. Standard deviation of inflation measured by the private consumption deflator.
2. Standard deviation of the CPI inflation rates recorded in 22 metropolitan areas of the continental United States. For 1999, data pertain to the first half.
3. OECD projections.

Source: European Central Bank, Eurostat and US Bureau of Labor Statistics.

The cross-country dispersion of inflation rates has remained close to that recorded in the United States and relatively low by historical standards. Indeed, the standard deviation of the CPI inflation rates recorded across 22 metropolitan areas in the United States is remarkably similar to that across the 11 countries of the euro area, even though the latter are less integrated. The same holds for the dispersion as measured by the amplitude of the range between the highest and the lowest inflation rate. Looking at developments over time within the euro area, the standard deviation of national consumer price inflation rates has risen since 1997 but stays well below the levels witnessed in the first half of the 1990s. If this measure is adjusted to take into account country size, dispersion even appears to have continued to shrink. In December 1999, HICP inflation exceeded the 2 per cent mark in six countries and stood between 1 and 2 per cent in the others. Inflation appears to be positively correlated with the output gap (Figure 11), as conjunctural slack tends to dampen inflationary pressures, and with potential growth, as the prices of non-tradables tend to rise faster in the countries catching up with euro area average per capita income (the so-called Balassa-Samuelson effect, discussed in Box 2 of the previous EMU study). However, in light of the fact that some of the higher-inflation countries enjoy above-average per capita incomes, inflation above 2 per cent could be seen in several as a symptom of possible overheating.

Figure 11. **Inflation and output gap**
In per cent and for 1999[1]



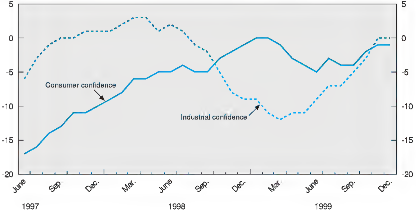
1. Output gap in per cent of potential GDP and private consumption deflator inflation.
Source: OECD Secretariat.

Near-term prospects[8]

Household confidence has remained high by historical levels in 1999 and business confidence, which had been severely dented by the emerging market crises, has gradually improved (Figure 12). Significant labour market slack remains overall, notwithstanding tightening conditions in some areas. Against this background, growth is set to remain above potential during the second and third year of monetary union, supported by a still relatively accommodating monetary policy (Chapter II) and a broadly neutral fiscal stance (Chapter III). As a result, the output gap is projected to be essentially closed by the end of 2001, for the first time in almost a decade (Table 2). By the end of the projection period, it would be positive in most euro area countries, the main exception being Italy.

In this context, underlying inflationary pressures would very gradually build up, but headline inflation would remain more stable, as the initial impact of the 1999 increase in commodity prices fades. The intensification of competition in network sectors and the take-off of electronic commerce will also help contain inflation.[9] In the face of still high unemployment, the projected acceleration of wages is limited. The current account surplus is not projected to move away significantly from 1 per cent of GDP.

Figure 12. **Confidence**
Percentage balances, seasonally adjusted



Source: Eurostat.

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Table 2. **Outcomes and outlook for the euro area**

Year-average percentage change, unless noted[1]

	1998	1999	2000	2001
Real GDP	2.7	2.1	2.8	2.8
Private consumption	2.7	2.4	2.6	2.7
Government consumption	1.2	1.6	1.1	1.0
Gross fixed investment	4.2	4.6	4.3	4.4
Final domestic demand	2.7	2.7	2.7	2.7
Stockbuilding[2]	0.6	–0.1	0.0	0.0
Total domestic demand	3.3	2.6	2.6	2.7
Exports of goods and services	6.3	2.3	6.3	6.2
Imports of goods and services	8.5	4.0	5.9	6.2
Foreign balance[2]	–0.5	–0.5	0.2	0.2
Output gap (level, in per cent of potential GDP)	–0.8	–1.1	–0.6	–0.2
Private consumption deflator	1.3	1.3	1.7	1.7
Harmonised index of consumer prices	1.1	1.1	..	..
Industrial producer price index (excluding construction)	–0.8	0.0	..	..
GDP deflator	1.6	1.3	1.5	1.6
Eurostoxx broad index of share prices	36.0	14.6	..	..
Economy-wide unit labour costs	0.2	1.7	0.9	1.0
Employment	1.3	1.5	1.2	1.1
Labour force	0.6	0.5	0.5	0.5
Unemployment rate (level, in per cent of the labour force)	10.9	10.0	9.6	9.1
Economy-wide productivity	1.4	0.6	1.6	1.7
Short-term interest rate (3-month Euribor)[3]	3.8	3.0	3.3	4.3
Long-term interest rate (10-year government bonds)[3]	4.7	4.7	5.7	5.8
Fiscal balance[4]	–2.0	–1.6	–1.2	–0.8
Structural fiscal balance[4]	–1.6	–1.1	–0.9	–0.7
Gross public debt in per cent of GDP[4]	73.7	72.9	71.5	69.5
Current account balance[5]	1.1	0.8	0.7	0.8
Memorandum item:				
Oil price (cif, $/barrel)	12.6	17.3	22.1	22.2

1. 1998 figures are Eurostat and ECB data; 1999 figures are OECD estimates based on known outcomes and 2000 and 2001 figures OECD projections.
2. Contribution to GDP growth.
3. Period average, in per cent, as compiled by the ECB (benchmark rates).
4. In per cent of GDP, Maastricht definition.
5. Level, in per cent of GDP, as published by the ECB.

Source: OECD *Economic Outlook* No. 66, European Central Bank, Eurostat.

This fairly auspicious outlook is not devoid of risks, however. On the domestic side, one risk would be that sizeable wage awards exceeding what low inflation and productivity gains would warrant might be granted in some sectors or countries. These could spill over to other sectors or countries in the euro area. This risk is magnified by the fact that headline consumer price inflation – on which wage bargaining is typically based – has been picking up, even though underlying inflation has remained remarkably stable. Wage moderation would contribute to containing inflationary pressures and help employment. On the external front, oil prices have continued to increase rapidly, approaching the $30 per barrel mark, which is far more than the assumption embedded in the OECD projections. At the same time, the euro has weakened since November 1999, implying that so far its path lies below the one underpinning the OECD projections.[10] There also remains the risk that the soft landing projected for the United States may turn out to be harder than foreseen, possibly in the wake of a correction in asset prices. In addition, further pronounced appreciation of the yen might jeopardise the recovery in Japan and thereby hurt prospects in Asia more generally. In addition, the situation in many emerging market economies, including in Latin America, is still fragile. Set against those downside risks, however, is the possibility that potential and actual growth would be more vigorous than currently projected, the likelihood of which would increase if efforts towards further market integration and regulatory reform were stepped up. In this respect, while the bulk of the internal market legislation has been transposed, considerable room for progress remains as regards enforcement, which is harder to monitor (EC, 1999*h*).

Over and above the aforementioned risks, several unknowns surround the outlook. *First*, the past may be subjected to more than the customary revisions, as implementation of ESA95 progresses, which could significantly shift the basis on which the projections are built. Recent upward revisions of preliminary national accounts data and early indicators available for the last quarter of 1999 suggest that on a year-average basis the 1999 slowdown may turn out to be less pronounced than generally anticipated. If so, this would carry over into 2000, with a potential for growth to exceed 3 per cent. *Second*, the anticipation of the millennium bug could have affected macroeconomic performance in the last quarter of 1999 and the first quarter of 2000, possibly with some precautionary stockbuilding in late 1999 boosting GDP and some extra holidays and destocking in early 2000 acting in the opposite direction. *Third*, looking further ahead, the pace and modalities of enlargement of the euro area remains uncertain, be it for the "outs" (Box 2) or, *a fortiori*, for the countries that are candidates to join the European Union (Annex II).

Box 2. Developments in the "outs"

For various reasons, Denmark, Greece, Sweden and the United Kingdom are not founding members of the euro area. The presumption is, however, that these countries will join once mandated by voters to do so, and provided the economic pre-conditions are fulfilled. Greece in particular hopes to join in January 2001.[1] Accordingly, those four countries are sometimes also referred to as the "pre-ins". Little has changed in this respect since the previous EMU study (see OECD, 1999*a*, Annex I).

Against this background, real GDP growth is projected to remain slower in 2000-01 than in the euro area in the United Kingdom and Denmark, and to stay distinctly more vigorous in Greece, while in Sweden it would converge to the euro area level from above (Figure 13). Concomitantly, the difference between the domestic output gap and the euro area output gap is projected to shrink in the United Kingdom (while remaining positive, *i.e.* with output relative to potential higher in the United Kingdom), to turn negative in Denmark, and to change little from its current positive levels in Sweden and Greece.

Turning to financial indicators, inflation as measured by the HICP has declined in the course of 1999 to come close to the euro area average in the United Kingdom and, more spectacularly, in Greece (helped, in the latter, by cuts in indirect taxes). In Sweden, HICP inflation has recently picked up a bit, coming closer to the euro area average. In Denmark, it has also picked up and by the autumn stood over one percentage point higher than in the euro area.

Since the end of 1998, the nominal exchange rate *vis-à-vis* the euro has been remarkably stable in Denmark and Greece, fluctuating well within the respective ±2¼ and ±15 per cent bands applicable under the new exchange rate mechanism (the so-called "ERM II"). In the case of Greece, it has hovered around 7 per cent above the central parity. In mid-January 2000, the latter was revalued by 3.5 per cent. The British pound and the Swedish krona instead have exhibited more volatility, with a tendency to appreciate *vis-à-vis* the euro.

Short-term market interest rate differentials *vis-à-vis* the euro have not moved very much in the course of 1999, following some initial narrowing early in the year. In the autumn, they hovered around ¼-½ percentage point in Denmark and Sweden, around 2½ percentage points in the United Kingdom and over 7 percentage points in Greece. Differentials at the long end of the spectrum have remained well below 1 percentage point in the course of the year in the United Kingdom, Denmark and Sweden. The long-term differential shrank in Greece, but stayed about 1 percentage point higher than in the other "outs".

On the fiscal front, the United Kingdom, Denmark and Sweden have been in surplus since at least 1998 and the balance is projected to remain positive over the projection period. Their debt ratios stand below the euro area average, especially in the first two countries, and are on a declining trend. In Greece, however, the policy mix is less well balanced and the fiscal position vulnerable, with a structural deficit projected to remain in the neighbourhood of 1¼ per cent of GDP and a debt ratio decreasing only marginally and staying above 100 per cent of GDP.

---

[1] In November 1999, public opinion polls showed a small majority in favour of joining EMU in Sweden (Demoskop poll) and Denmark (Greens/Boersen poll), but with a large portion of the population undecided. Popular support for joining is overwhelming in Greece. In contrast, the polls have typically shown a majority to be against in the United Kingdom. Past experience suggests, however, that poll results may be poor predictors of the outcome of a referendum.

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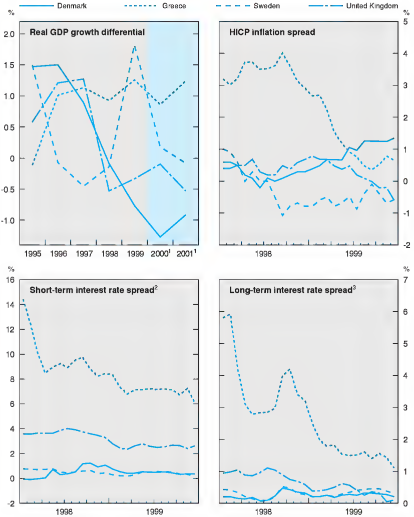
Figure 13. **Developments in the "outs"**

Comparison with the euro area



1. OECD projections.
2. Three-month rates.
3. Ten-year government bond yields.

Source: Eurostat and OECD, *Main Economic Indicators*.

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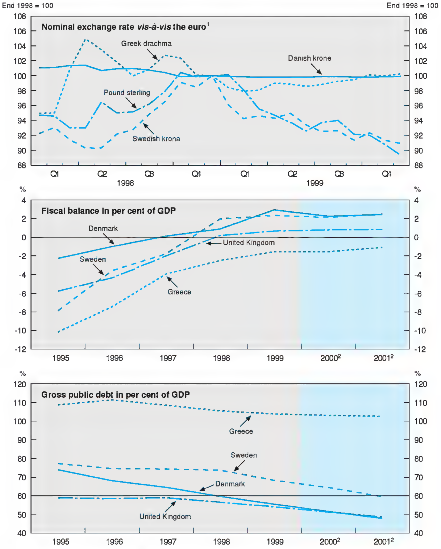
Figure 13. **Developments in the "outs"** *(cont.)*



1. An increase denotes a depreciation *vis-à-vis* the euro.
2. OECD projections.

Source: European Central Bank and OECD Secretariat.

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II. Monetary policy and financial stability

Monetary union started under somewhat more testing conditions than hoped for earlier on, insofar as cyclical developments within the euro area showed disquieting signs of increasing divergence, with activity slowing down significantly in some of the larger Member countries. Even as the effects of the 1997-98 emerging market crises and of the lingering weakness of the Japanese economy were still palpable, the conflict in the Balkans heightened the uncertainties facing the Eurosystem.[11] Given these circumstances, and with the balance of risks to future price stability seeming to veer towards deflation, the Eurosystem cut its headline policy rate by half a percentage point in April 1999. From around mid-year, however, signs of a solid recovery started to emerge, and in November, the Eurosystem raised rates for the first time, fully reversing the April move. Contrary to widely held expectations, or even fears, of a "strong" euro, the exchange rate depreciated almost uninterruptedly during the first half of 1999, raising concerns about overshooting in the opposite direction. During the summer, it strengthened somewhat, helped by the acceleration of activity, but it has weakened again since.

This chapter opens with a description of the monetary policy stance during 1999, which overall has been appropriate. It then presents an analysis of the new policy framework in action. One of the challenges for the Eurosystem, discussed next, is the remaining asymmetry in monetary transmission mechanisms. The following section documents the spreading usage of the euro as a denomination, payment and saving instrument. Lastly, a number of financial stability issues are examined.[12]

Accommodative monetary conditions

The irrevocable conversion rates of the participating currencies were frozen on 31 December 1998.[13] Trading in the new currency started four days later, with the spot rate approaching $/€ 1.18, and forward rates indicating that market participants expected some further appreciation. Contrasting with this inaugural "europhoria", the exchange rate depreciated fairly steadily until July 1999, falling

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below \$/€ 1.02 (Figure 14), whilst speculation intensified about possible Eurosystem intervention to keep the rate above parity.[14] In multilateral terms, however, the depreciation was less marked, with the effective nominal rate weakening by about 10 percentage points. Partly because they had been wrong-footed, a number of commentators reacted at the time with undue alarm to what in historical perspective did not constitute a particularly large swing, failing to sufficiently take into account the fact that the depreciation occurred at a propitious moment in the cycle. Also overlooked by some was the fact that the exchange rate in January 1999 reflected a substantial weakening of the dollar in late 1998, in the aftermath of the Russian financial crisis and hedge fund incidents, which was reversed as the spectre of a global meltdown faded.

As signs of an ongoing pick-up in activity multiplied, however, the euro bounced back somewhat in late July and early August. Indeed, as noted by Corsetti and Pesenti (1999), the fluctuations of the \$/€ rate have been closely linked to agents' perception of cyclical developments on both sides of the Atlantic (Figure 15). The turn in capital flows in the third quarter worked in the same direction (Chapter I). In the autumn, however, and notwithstanding the strengthening of growth in the euro area, the currency weakened anew, briefly dipping below \$/€ 1 in early December. Even so, in nominal effective terms, and based on monthly averages, the movements of the euro in the course of 1999 have remained within a ±7½ per cent range around its mid-1997 level. The amplitude of the euro's movements *vis-à-vis* the dollar as well as *vis-à-vis* a broader set of currencies has thus not been more pronounced during that period than in earlier years. It has also been more limited than the contemporaneous bilateral or multilateral fluctuations in the exchange rate of the yen. The high-frequency volatility of the euro, as measured by the coefficient of variation of the exchange rate over the last 30 days, has not changed markedly compared with earlier years (both *vis-à-vis* the dollar and multilaterally).

Besides short-run volatility issues, there is the more challenging question of where the market exchange rate stands with respect to some equilibrium concept. It has been conjectured that around the time the euro was launched, its equilibrium value was lying in the neighbourhood of \$/€ 1.15 to 1.20, based on purchasing power parity applied to GDP deflators and assuming that an appropriate benchmark period would be 1987-88.[15] Such numerical estimates, however, are notoriously uncertain. They differ a lot depending on the selected base period and are sensitive to the price measure used. They also hinge on the choice of the set of comparator countries: broader sets, including emerging market economies which experienced large depreciations *vis-à-vis* the dollar since 1997, tend to point to more limited under-valuation. Furthermore, since the estimates are derived from past behavioural relationships, they may no longer fit the new environment. Hence, the uncertainty surrounding any central estimate of the equilibrium rate is considerable.[16] Last and not least, it should be borne in mind

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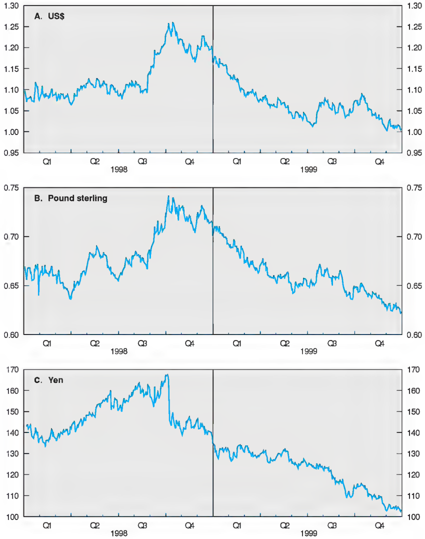
Figure 14. **Bilateral exchange rates**

Nominal bilateral rates per euro



Source: OECD Secretariat.

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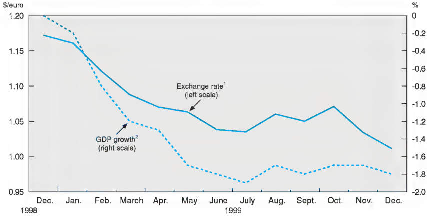
Figure 15. **Cyclical divergence and the $/€ exchange rate**



1. Average monthly exchange rate.
2. Difference between consensus 1999 GDP growth forecast for the euro area and the United States.

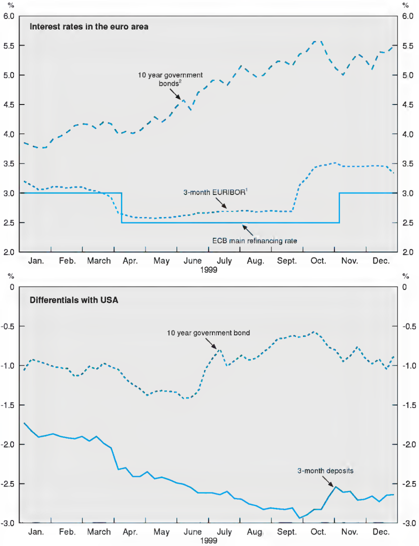
Source: Consensus Economics, European Central Bank.

that a properly defined equilibrium level varies over time, since it depends on evolving fundamentals. In fact, it may also depend on how and how fast the market rate moves towards it. For all those reasons, it should not be construed as a policy target.

Against this background, and as concerns about deflation gained prominence and the output gap on most estimates seemed to be widening, the Eurosystem cut the main refinancing rate by 50 basis points on 8 April 1999, to 2½ per cent (Figure 16). This was the first move since the co-ordinated December 1998 cut. It came a bit later but was larger than generally anticipated by market participants. Given that in early April the exchange rate had been depreciating and money expanding more rapidly than the reference value (see below), the interest rate path was in line with what would be implied by a policy reaction function giving a significant weight to the output gap, be it directly or indirectly (namely, insofar as the output gap itself influences future inflation).[17] Short-term interest rates were therefore broadly in line until the autumn of 1999 with what most estimates of a Taylor rule warranted, or even somewhat on the low side.[18]

In early November 1999, faced with strengthening business confidence and accelerating activity, prices and money aggregates (see below), and as forecasts of economic growth were generally being revised upwards, the Eurosystem

Figure 16. **Interest rates**



1. Euro interbank offered rate.
2. Harmonised national government bond yields weighted by nominal outstanding amounts.

Source: European Central Bank.

raised the main refinancing rate (and the rates for the two standing facilities) by 50 basis points, fully reversing the April cut. This move had been foreshadowed since July by ECB officials' statements to the effect that a tightening bias was gradually creeping into the Governing Council's *Eurolandanschauung*. It was therefore widely expected and already reflected in the 3-month euribor, which increased by some 80 basis points between late September and mid-October, for this reason and also as a result of the millennium hazard (a premium for the availability of funds at the time the bug may hit being required by market participants, affecting the unsecured deposit contracts spanning the end of the year). Following the move, the 3-month euribor remained in the vicinity of 3½ per cent. The size of the move partly reflected a concern to deflate worries about possible further increases in a near future already clouded by millennium uncertainty.

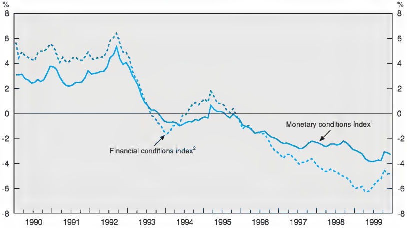
The infrequency of the Eurosystem's moves could be interpreted as inertia resulting from the large number of voting NCB governors (Gros *et al.*, 1999), but more clearly reflects a desire to avoid "excessive monetary policy activism" (Issing, 1999*a*), in line with Bundesbank culture and in sharp contrast, for example, with the posture of the Monetary Policy Council of the Bank of England, which in the course of 1999 adjusted its policy rate six times.[19]

In January 1999, the yield curve was relatively flat, with 10-year government bond yields troughing at 3¾ per cent, against a three-month money market rate standing at 3.1 per cent. In the course of the year, however, the yield curve steepened significantly, with the gap between short and long rates widening to 2½ percentage points by September. This gap subsequently narrowed somewhat. Long rates rose rather steadily, reaching 5½ per cent in October, as concerns about deflationary pressures eased and signs of a rebound in activity multiplied. The unwinding of earlier "safe haven" capital inflows also played a role. The spread *vis-à-vis* long rates in the United States narrowed to 0.6 percentage point in October but has widened anew since. In nominal terms, long rates remained relatively low by recent historical standards. In real terms (deflating by consumer prices) they increased significantly in the course of 1999 but may still be lower than in 1995-97 (especially if agents were anticipating further disinflation back then as opposed to a mild pick-up in inflation in 1999). Within the euro area, long-term interest rate differentials have remained limited since 1998. In 1999, they stayed in a range spanning no more than 50 basis points, which is close what had been seen pre-EMU for dollar denominated debt issued by the same countries. The spreads correlate positively with debt ratios and negatively with market depth.[20]

The combination of the exchange rate and short-term interest rate movements described above translated into a set of monetary conditions that was far more relaxed than at any earlier time during the 1990s (Figure 17). However, when

Figure 17. **Monetary conditions**

Per cent



1. The weights underlying the index are 1 for the short-term interest rate and 0.15 for the exchange rate They were derived from simulations with the OECD Interlink model. The calibration of the weights is subject to the usual criticism of being highly model specific and potentially sensitive to the nature and size of the shock.
2. The weights underlying the index are 0.75 for the short-term interest rate, 1 for the long-term interest rate and 0.11 for the exchange rate. They were derived from Winder (1999). The same caveats apply.

Source: OECD, *Main Economic Indicators* and OECD Secretariat.

the rebound in long-term interest rates is taken into account in a broader financial conditions index, the measured loosening in 1999 appears to be less marked (albeit starting from a lower 1998 base).[21]

Against this background, lending to enterprises and households increased rapidly in 1999, driving overall credit expansion. Credit to the private sector has been expanding at an annual rate of around 10 per cent (Figure 18). Abstracting from very short-run movements, credit to general government has been essentially flat throughout the year, be it in gross or net (of government deposits) terms. In some countries, where real interest rates have come down more sharply than in the euro area as a whole, credit and asset prices have been growing very rapidly for several years, prompting concerns about the quality of bank portfolios and potential bubbles (see Table 3).

Broad money accelerated as well in the course of 1999, expanding at a rate consistently and significantly exceeding the Eurosystem's reference value of 4½ per cent (see below).[22] On a three-month moving average basis, annual M3

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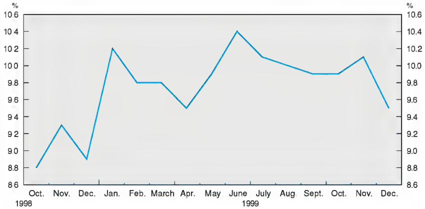
Figure 18. **Credit**

Change over corresponding month of previous year



1. Loans to the private sector in the euro area, on the basis of flows adjusted for reclassifications, other revaluations, exchange rate variations and any other changes which do not arise from transactions.

Source: European Central Bank.

Table 3. **Credit and asset prices**

Per cent increase between 1996 and June 1999

	Bank lending to private residents[1]	Share prices	House prices[1]	*Memorandum item* Nominal GDP[2]
Finland	18	258	56	22
Ireland	93	95	87	48
Netherlands	47	108	40	18
Portugal	87	119	31	21
Spain	48	151	16	20

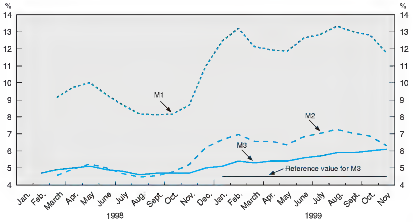
1. June 1996 to June 1999.
2. Average 1999 compared with average 1996.

Source: OECD, *Main Economic Indicators*, *Economic Outlook* No. 66, National central banks.

growth, which stood at around this level in late 1998, increased to reach 6 per cent in the autumn of 1999 (Figure 19). Within M3, there was considerable substitution.[23] Despite a steepening yield curve, narrow aggregates rose much faster: M1 growth in particular was over twice as rapid, driven by overnight

Figure 19. **Monetary aggregates**

3 month centered moving-average of 12 month % change[1]



1. On the basis of flows adjusted for reclassifications, other revaluations, exchange rate variations and any other changes which do not arise from transactions.

Source: European Central Bank.

deposits. Velocity, measured as the ratio of GDP to M3, remained on a downward trend in the first half of 1999. Equivalently, real money demand continued to rise, possibly reflecting the entrenchment of low inflation expectations and also as a result of the positive wealth effects associated with rising stock and housing prices.

Gaining experience with the new rules

During the run-up to monetary union, concerns had been voiced that the changeover might be preceded by an ultimate currency crisis (Obstfeld, 1998), or followed by an irresistible speculative attack (Garber, 1998). In the event, and notwithstanding some minor glitches, the transition proceeded smoothly. The new operational framework is described in Box 3. The rest of this section discusses the monetary strategy and how monetary policy was conducted during the first year of EMU.

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Box 3. Operational framework: a smooth transition

The main elements of the operational framework of the Eurosystem had started to be phased in during Stage Two and were fully in place by January 1999.[1] Thanks to intensive preparatory work and testing, the changeover was not accompanied by any first-order disruptions, notwithstanding a few teething problems in the early days of operation, mostly resulting from operational mistakes by banks rather than deficiencies in the system.[2] The operational framework comprises open market operations, two standing facilities and reserve requirements. In a broader sense, it also includes the Trans-European Automated Real-time Gross settlement Express Transfer (TARGET) system and the correspondent central banking model (CCBM).

The Eurosystem provides the bulk of liquidity to the banking system through its main refinancing operations, conducted via weekly (with a two-week maturity) and monthly (with a three-month maturity) tenders, through the NCBs. Tenders can be executed in the form of fixed or variable rate auctions.[3] The Eurosystem normally conducts the monthly tenders at variable rates. While it retains the option of using variable rates for weekly tenders, it has thus far conducted them at fixed rates. Allotment-to-bid ratios declined in the course of the summer, but to some extent this may have reflected credit institutions' incentive to overbid – notably once it had become clear that bids need not be fully collateralised – rather than an underlying increase in demand for liquidity. On average, some 700-750 credit institutions (*i.e.* less than one tenth of the total number) participate as counterparties in the weekly tenders.[4] Adequate collateral is required for all credit operations of the Eurosystem. In practice, the majority of the collateral consists of government paper, but several types of private securities are used as well. Eligible assets can be submitted by counterparties irrespective of their location in the euro area. In order to facilitate the use of collateral on a cross-border basis, the ESCB created the so-called CCBM.[5] Counterparties may also make use of the links between SSSs that have been approved by the Eurosystem.

The Eurosystem is also empowered to carry out ad hoc fine-tuning operations, to cope with unexpected liquidity fluctuations, in the form of quick tenders or bilateral deals with selected counterparties. Furthermore, the Eurosystem may conduct structural operations to alter its underlying net position *vis-à-vis* the banking system using reverse transactions, outright operations or debt certificate issuance. No such operations were conducted in 1999, but in early January 2000, a liquidity-absorbing fine tuning operation was carried out in the form of a collection of fixed-term deposits processed as a quick tender at a variable rate, with a view to adjust liquidity once it had become clear that the financial system had successfully weathered the century date change.

In addition, the Eurosystem offers two standing facilities, operated at NCB level. A marginal lending facility provides overnight liquidity against eligible assets and a deposit facility enables counterparties to make overnight deposits. There are no limits on amounts. The interest rates on these facilities respectively stood at 3½ and 1½ per cent from April to early November, when they were raised by ½ percentage point. Recourse to these facilities has tended to decrease in the course of 1999, and is now typically concentrated at the end of the reserve requirement periods. The overnight market interest rate (EONIA) has indeed stayed well within this corridor.

(continued on next page)

(continued)

A minimum reserve requirement of 2 per cent is imposed on all credit institutions established in the euro area, applied to all liabilities *vis-à-vis* non-banks with a maturity of up to two years (excluding repurchase operations with customers). This contributes to creating a structural liquidity deficit which facilitates central bank steering of money market interest rates. The requirement has to be fulfilled over a one-month maintenance period, allowing credit institutions to smooth out daily liquidity fluctuations and reducing the need for frequent central bank intervention in the money market. Required reserves are remunerated at a rate equal to the average rate of the weekly tenders over the maintenance period, hence they do not tax the private sector much nor do they significantly affect the competitiveness of euro area credit institutions.

TARGET plays a crucial role in ensuring that uniform interest rates prevail in the money market by allowing easy, swift and safe arbitrage operations throughout the euro area. It has been set up at the EU level and consists of 15 national real-time gross settlement systems plus the ECB's payments mechanism, which are interlinked and provide a common platform for processing (mostly large-value) cross-border payments. Payments are effected in about one minute, and irrevocably. They are executed only if the transfer is covered by a cash balance or a collateralised intra-day credit, thus eliminating the settlement risk faced by individual participants and minimising systemic risk. Some 5 000 credit institutions are connected to TARGET. The payments processed via TARGET represent around 70 per cent of the total volume of large-value payment transactions in the euro area (the rest being channelled through the private Euro1 system of the European Bankers' Association and four other large-value settlement systems). Overnight money market interest rate dispersion has shrunk to as little as 2-4 basis points (for the 57 banks reporting the rates that are used to compile the EONIA), and now mostly reflects differences in the credit standing of banks rather than country-specific factors. Notwithstanding, because of the co-existence of alternative payment channels, some problems arose in early 1999. Although the banking community had developed recommendations on best practices, payment operators and liquidity managers faced payment routing uncertainties. Payments were received via unexpected channels, complicating liquidity management. Banking organisations have developed some guidelines since to address this problem.

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1. For more details, see Santillán (1999).
2. An exception was a technical failure in one of the interlinked national settlement systems on January 29, which caused a number of payments to be rejected and hence a spike in the recourse to the Eurosystem's standing facilities.
3. In fixed-rate auctions, the rate is specified *ex ante* by the Eurosystem and participating counterparties bid the amounts they want to transact. In variable rate auctions (as typically used by the Bundesbank until the mid-1990s), counterparties bid both the amounts and the rates.
4. About one third of the credit institutions considered as eligible can actually participate in open market operations, but owing *inter alia* to the ongoing streamlining of cash management operations, only a fraction of this subset participates.
5. The CCBM is a procedure based on correspondent relations between central banks of the ESCB allowing to hold collateral throughout the EU. In addition to the fact that the confirmation process may be time-consuming (involvement of custodians and securities settlement systems (SSSs) alongside the central banks), repatriation of collateral to the issuance SSS may be necessary because the NCB acting as correspondent is the one of the country where the collateral was issued.

Eclectic referencing

The new operational framework described in Box 3 would be compatible with different types of monetary policy strategies: instrument rules (such as Taylor-like rules), monetary targeting (in line, at least *pro forma*, with Bundesbank tradition), exchange rate targeting (as practised by some countries in the run-up to EMU), direct inflation targeting (pursued for instance by the Bank of England, the Bank of Canada, the Sveriges Riksbank and the Reserve Bank of New Zealand), or the two-pillar approach followed by the Eurosystem, as made public in December 1998 (ECB, 1999*a*).

The primary objective of the Eurosystem is to maintain price stability over the medium run. This objective has been quantified as keeping area-wide inflation below 2 per cent, while avoiding sustained declines in the general price level, as measured by the HICP.[24] Temporary oscillations beyond the 2 per cent mark are not ruled out, however (Issing and Angeloni, 1999).

The first pillar of this strategy is a prominent role for money, signalled by the announcement of a medium-term reference value for the annual growth rate of M3, monitored on a three-month moving average basis, which was initially set at 4½ per cent.[25] This value was derived based on a projected trend growth rate of real GDP of 2 to 2½ per cent and the assumption that M3 velocity of circulation is on a declining path of ½ to 1 per cent per year.[26] In December 1999, the Eurosystem reviewed the growth and velocity assumptions and concluded both remained valid, thus confirming the 4½ per cent reference value. The generous provision of liquidity in 1999 as well as increasing interest rates might indeed lead one to expect some slowdown in money growth in 2000.[27] The pick-up in growth and inflation works in the opposite direction, however. In light of the overshooting experienced in 1999 and of the uncertainties associated with special factors – including possible Y2K effects – a case could be made for a corridor rather than a fixed reference value.

The second pillar of the Eurosystem's strategy is a broadly based assessment of the outlook for price developments and risks to price stability. This assessment is based on the analysis of indicators such as the output gap (which as a reflection of domestic conditions becomes relatively more important in a large monetary zone), labour cost pressures, exchange rates, the yield curve, fiscal positions, international prices, asset prices and expectations. Based on those data, the Eurosystem produces its own assessment of the inflation outlook, although no inflation forecast is published.[28]

Several issues have arisen surrounding this set-up and its implementation. The first one pertains to the seemingly asymmetric definition of price stability adopted by the Eurosystem. Critics contrasted it with the resolutely symmetric approach of the Bank of England and others (Svensson, 1998).[29] Eurosystem officials have argued that the implicit floor of zero inflation implied a fair degree of symmetry, and that not enough is known yet as regards the properties of the newly developed HICP to be more precise.[30] The April 1999 interest rate cut, at a time when HICP inflation was running at about 1 per cent, tends to support the view that the inflation target is not that asymmetric. Against the background of concerns about deflation and liquidity traps fuelled by the plight of the Japanese economy, the issue has also arisen of whether the 2 per cent ceiling was high enough. It has been argued that keeping inflation too low may entail output costs because prices and wages exhibit downward rigidities,[31] because nominal interest rates cannot become negative and therefore may constrain the central bank in its ability to offset adverse spending shocks (Summers, 1991), or simply because measured consumer price inflation is likely upward biased (although this is probably less the case with the HICP than with the national consumer price indices). Estimates carried out on United States data spanning the last two decades, however, suggest the first two types of constraints start to be binding only for inflation targets in the 0 to 1 per cent range (Orphanides and Wieland, 1998). Another question concerning the 2 per cent ceiling is whether it allows sufficient room for dispersion in positive inflation rates across euro area countries. In 1999, this may have appeared more as a theoretical problem rather than a concrete policy dilemma. More recently, however, this issue has become more immediately relevant for policy-making. Lastly, and all the more so as concerns about deflation have been voiced, one might want to focus on some indicator of core inflation rather than on headline HICP inflation. While abstracting from ephemeral departures from trend has merits in principle, it ought to be recognised that in practice, among the available methods to estimate core inflation, few if any are both theoretically sound and understandable by the public (Box 4). Moreover, the Eurosystem's accountability could be weakened if it were seen as producing its own "corrected" measure of inflation.

A second set of debates revolves around the prominence of M3 in the definition, if not necessarily the practice, of monetary policy, in a context where estimated historical relationships between money, interest rates, output, and prices – which were not that tight to begin with – may break down. The Eurosystem describes M3 as a "natural, firm and reliable" anchor (ECB, 1999*a*). While the relationship between money and prices may be unstable at high frequencies, and even more so in the course of the regime shift that occurred with the launch of the euro, it is deemed that over the longer run it will "remain as robust as it has proved, ubiquitously, in the past" (Issing, 1999*a*). A key justification provided in favour of this approach is that money demand for what was to become the euro area was well explained and stable up to the end of Stage Two, more so than at the national level.[32] The argument of greater stability at the aggregate level has been questioned on the grounds that aggregation mechanically tends to average out idiosyncratic shocks, the occurrence of which may be expected to decline as monetary integration deepens (Arnold, 1994). Simulations assuming a higher

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Box 4. Core inflation: an elusive measure

High frequency changes in measured inflation can be misleading in that they do not necessarily signal an inflexion in underlying trends. In a number of cases, they may reflect temporary factors and can be expected to be largely reversed (*e.g.* poor weather pushing up food prices, or when indirect tax rates are altered for items with a significant weight in the CPI).[1] A host of definitions of core inflation have been proposed to control for this problem and better capture the permanent component of inflation (Wynne, 1999). The ECB itself has at times highlighted HICP inflation excluding energy (and on occasion food) prices, which are typically more volatile in the short run than other prices.[2] As illustrated in Chapter I (Figure 10), such an adjustment makes a significant difference. Some analysts prefer to monitor moving averages of total HICP inflation, or run the raw series through a statistical filter to smooth it. Others exclude the items recording the largest increases or declines to look at a "trimmed" mean. Others still replace the usual consumption-based weights by coefficients that are inversely proportional to the volatility of individual prices, to obtain a "variance-weighted" index. An alternative approach is to define core inflation as the component of measured inflation that has no impact on real output in the long run, and to estimate it using a vector auto-regression system for output and inflation.

Unfortunately, most of these core inflation measures suffer from serious drawbacks. For the euro area, none of them have a robust track record, since the HICP series is still short. They involve some degree of arbitrariness, since there is no strong justification for the list of items that is excluded. Most of them are difficult to explain to the general public, not least those that rely on econometric estimates and for which the whole historical series changes each time one observation is added.

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1. Temporary shocks, however, may in some cases affect inflation expectations and have relatively long-lasting indirect effects on inflation.
2. In this context, it should be noted that the HICP excludes mortgage payments and imputed rents for owner-occupied housing.

incidence of common shocks, however, appear to suggest that the stability and fit of an area-wide equation remain superior (Fagan and Henry, 1998).[33] But as to the argument of stability through the end of Stage Two, it remains unclear to what extent the properties of the money demand function prior to 1999 carry over into EMU, as pointed out in some of the studies that document the relative stability of money demand in the old regime (*e.g.* McMorrow, 1998). In addition, financial innovation, for instance the development of remote banking services, could affect the stability of money demand, as it has in the past in individual countries. In this regard, the introduction of cash euros in 2002 will likely translate into an upward shift in money demand of unknown but significant size, as euro notes replace dollar notes in regions outside the euro area, notably in central and eastern Europe. Therefore, the second pillar (*i.e.* the broad assessment of economic conditions) is certainly no less important than the first one (M3).

De facto, Eurosystem policy has indeed been eclectic and has put a tangible weight on the broad range of indicators considered under the second pillar, including the output gap,[34] since the policy rate was cut at a time when M3 was growing faster than the benchmark and the euro was depreciating. In that sense, it bears more resemblance to the *modus operandi* of the United States Federal Reserve than what a literal comparison of the latter's and the Eurosystem's policy frameworks might suggest.

A third debate concerns the exchange rate. As the euro depreciated in the course of the first half of 1999, with little visible intervention from the Eurosystem on the foreign exchange market,[35] some commentators started to deplore what they perceived as the Eurosystem's neglect (benign or otherwise) of the exchange rate.[36] While its depreciation was in no way overlooked, it was rightly deemed limited in scope and less of an inflationary threat in a much larger and less open monetary zone. In fact, had the Eurosystem adopted an exchange rate target, it would have faced a most unpleasant conflict of priorities. The exchange rate controversy illustrates, however, how difficult it is for the Eurosystem to convey some of its policy messages.

Talking to the markets

Many of the criticisms addressed to the Eurosystem during its first year of operation have concerned transparency or the claimed lack thereof rather than its interest rate decisions.[37] Practices differ across central banks in this respect, especially as regards their views on transmission mechanisms and how decisions are reached. While Eurosystem officials have claimed that theirs is one of the most transparent central banks in the world, critics have accused them of deliberate opaqueness (Buiter, 1999). In assessing the degree of transparency, it is important to keep in mind that the first year of EMU has been a period of learning-by-doing for the Eurosystem as well as for banks and other agents. It should be borne in mind that transparency ought to be discussed in the context of the Eurosystem's strategy and not in the context of the strategy of central banks pursuing a different approach. A clear distinction should also be made between objectives, decision-making and models and projections.

As already noted, there has on occasion been a dose of real or at least apparent confusion surrounding the Eurosystem's view on the exchange rate. Statements by Board members or politicians in Member countries have sometimes sent conflicting or unintended signals, prompting speculation that the euro's depreciation until mid-1999 had been exacerbated by such talk (Attrill, 1999),[38] and proposals to better co-ordinate public utterances.[39] In the event, improved discipline to "speak with one voice" or at least have the different voices "speak the same message" seems to have helped reduce the scope for

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ambiguity since the summer. These episodes have nonetheless shown that too much or disorderly communication may add to the ambient uncertainty rather than reduce it.

A number of critics have called for more detailed and explicit minutes of the meetings of the Governing Council. At one extreme, it has been argued that individual voting records should be revealed, as they are in the United Kingdom (Svensson, 1998, Begg *et al.*, 1998 and most vocally Buiter, 1999). Others, referring to the practice in the United States (but not advocating to simply transpose it), have suggested the publication of anonymised minutes (*e.g.* Goodfriend, 1999). Eurosystem officials have replied that the statements issued to the press right after Council meetings plus the analysis contained in the monthly bulletins in effect represented timely minutes of the discussion, adding that the monthly press conference following every other meeting ensured more transparency and accountability than elsewhere (Duisenberg, 1999 and Issing, 1999*b*).[40] In fact, as long as the ECB refrains from publicly quantifying its assessments in a more systematic way, it will remain difficult to produce the functional, and *a fortiori* formal, equivalent of minutes. As to individual voting records, a major obstacle is that their publication would put an undue burden on members asked to demonstrate that their decision was not influenced by country-specific motivations. It might also shift the focus away from substantive matters to issues of personality, as market analysts' ornithological typologies of the members of the Monetary Policy Committee of the Bank of England illustrate. This being said, the occasional disclosure by some Council members of their preferences, based explicitly on home-country considerations, runs counter to the efforts to build and stick to a common language. In part, such slippages can be ascribed to the fact that it takes time to adjust to the new rules and to the fact that NCBs continue to play a more prominent role than they might in the long run.[41]

The publication of the model(s) used by the Eurosystem and of its macroeconomic forecasts could be helpful to dispel those and other misperceptions. Work is in progress at the ECB on both fronts. The task is of course much more of a challenge than in the national banks that have – recently – taken those steps, such as the Bank of England, given that the Eurosystem is a new and multilateral institution and in the absence of historical series for the euro area. The publication of the ECB's own macroeconomic projections would require some pedagogical efforts, however, as observers often tend to overlook their conditional nature. Moreover, it should not be taken for granted that earlier and more comprehensive disclosure of the ECB's forecasts necessarily improves policy outcomes, especially if interest rate volatility is deemed undesirable.[42]

Remaining monetary transmission asymmetries

While financial systems across euro area countries are becoming more similar in many ways, some significant differences persist, suggesting that the impact of the Eurosystem's monetary policy actions may be uneven, both as concerns size and timing.[43]

The similarities are growing along several dimensions. The bilateral nominal exchange rate *vis-à-vis* other euro area countries is no longer a transmission channel. Reserve requirement rules are now uniform. In addition, common trends in the evolution of financial systems are evident, including intensified competition, a shrinking share of administratively set interest rates, disintermediation, concentration (including through cross-border mergers) and increasing recourse to standardised medium to long-term, fixed-rate, bullet, marketable securities for public debt financing (which also helps to insulate budgets from short-term interest rate movements and to create a constituency of inflation-averse debt holders).

Although those trends may broadly be the same, national conditions continue to differ, as countries move at different speeds and from different starting points. Major differences will therefore remain, at least for the foreseeable future. For one thing, the importance of trade flows *vis-à-vis* countries outside the euro area varies, implying that a given movement in the euro exchange rate will not have the same impact. As concerns financial structures, differences are particularly conspicuous with respect to mortgage lending: the share of variable rate mortgages is high in Finland and Ireland at one end, and low for Germany and France at the other, suggesting possibly larger transmission effects on household spending in the former than in the latter group. Differences are also striking as to the structure of household and enterprise balance sheets, as documented in the previous EMU study: a given change in interest rates may thus translate into different wealth effects across countries. Equally noticeable are the varying degrees of dependence on bank finance, possibly inversely related to the degree of legal protection offered to shareholders and creditors: monetary policy action will have more effect via the so-called credit channel where firms rely relatively more on bank than on capital market finance (Cecchetti, 1999), although trade credit may substitute for bank lending, notably in countries such as France, Italy and Spain, where its importance in firms' balance sheets is on average comparable to that of bank loans (Mojon, 1999*a*).[44] They will be transmitted faster via the interest rate channel where firms rely more directly on capital markets. Finally, to the extent that the health of banks varies across countries, transmission may also be affected, with monetary policy impulses possibly stronger where banking systems are more fragile (on the grounds that substituting marketable liabilities for deposits in order to offset tighter monetary policy is more expensive for weaker banks).

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While all these differences clearly matter for the microeconomic transmission of monetary policy impulses in EMU, their net macroeconomic effect remains uncertain. The evidence discussed even in the recent literature on the subject is mixed and in any event somewhat *passé*.[45] Moreover, it often leads to emphasising the contrast between the United Kingdom and continental Europe, which for the time being is of no concern in setting monetary policy for the euro area.

The spreading usage of the euro

Even though euro-denominated notes and coins will start to circulate only in January 2002,[46] the euro has already fully replaced legacy currencies in most other respects and is increasingly being used internationally. One of the benefits of a single currency is indeed the deepening of capital markets, which should improve allocative efficiency and hence growth prospects.

At the retail level, households increasingly face prices quoted in euros alongside the price expressed in the legacy currency, but as yet only a tiny proportion pays by drawing cheques or using credit cards debited from a euro-denominated account. Businesses use the euro on a much wider scale in accounting (notably internal group accounting within international firms), invoicing and payment, although most small and medium-sized firms are not planning a changeover before 2001, which may cause information technology bottlenecks around that time. The euro is also starting to be used in some business contracts in the "outs" and in Switzerland and Norway, where over time it might emerge as a parallel currency (although the experience of Canada suggests that its role in neighbouring countries might remain limited). On international commodity markets, several producing countries have announced their intention to invoice part of their oil export contracts in euros. The quality and price of cross-border retail payment services, however, remains distinctly worse than for domestic operations. In early 1999, the Commission initiated investigations into overcharging and possible collusion by European banks on currency conversions. By the autumn, no evidence of cuts in charges had come in, and the Commission extended the scope of its cartel probe. Meanwhile, the Eurosystem published a set of objectives for cross-border retail payment operations in the euro area, to be fulfilled by 1 January 2002. They include the implementation of the existing common standards, substantial cuts in the price of credit transfers, stepping up settlement speed and improving price transparency for clients (ECB, 1999*c*).

In contrast, the changeover has been completed in financial markets, even though this does not mean that they are now fully integrated (Box 5). In the case of the money market, which is the most integrated of financial markets, repurchase operations remain highly segmented nationally, due to a lack of harmonisation in standards and differences in procedures used across the numerous securities trading platforms, clearing houses and SSSs (Giovannini, 1999).

Box 5. Residual market segmentation in the financial sector

While the introduction of the euro has accelerated the drive towards deeper financial integration,[1] a number of institutional obstacles remain, which limit cross-border operations. Prominent among those residual barriers are the following:

- Companies wishing to raise capital through several EU markets have to produce multiple prospectuses, owing to the application of national requirements on top of those prevailing in the issuer's country and to differences in financial reporting obligations across countries.
- National rules governing secondary securities and derivatives markets are still very diverse.
- The market infrastructure is composed of many different trading platforms (stock exchanges), clearing bodies and SSSs. Some market institutions have started to establish inter-linked procedures between trading platforms and SSSs, but the efficiency and performance of such arrangements remains to be seen.
- The norms applicable to supplementary pension funds (authorisation, reporting, fit and proper criteria, as well as restrictions and taxes on assets and liabilities) differ considerably across countries, with often a bias favouring investment in domestic securities.
- There remains a higher risk of invalidation and uncertainty regarding enforceability for cross-border than for domestic collateral, although not for CCBM procedures nor for the links between SSSs that have been assessed against ECB standards for the use in Eurosystem credit operations.
- In the retail markets, information requirements applicable to financial institutions are far from fully harmonised.
- The redress options available to consumers in cross-border contractual disputes are often unclear.
- The regulation and taxation of insurance intermediaries has been developed along very different lines across countries, restricting service provision.
- High charges continue to apply to low value cross-border retail payments or transfers.

Actions are under consideration or in preparation in most of those areas, in the form of communications or directives, or of Eurosystem or private sector initiatives (EC, 1999*h*, *i*). In a number of cases, the emergence of new instruments and techniques (*e.g.* alternative internet-based securities trading systems, electronic commerce) adds urgency to better co-ordination.

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1. Relevant directives in this area include the first (1977) and second (1989) banking directives, and the directives on solvency ratios (1989), capital adequacy (1993), investment services (1993) and settlement finality (1998). They aim at creating a single, EU-wide "passport" for financial service providers and are based on the principles of mutual recognition and home-country control in a safer legal environment. Even so, they foresee exceptions, such as the allowance for host-country control in special circumstances (see Danthine *et al.*, 1999).

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Turning to bond markets, euro-denominated issues, by residents as well as by non-residents have made a solid *début*. In 1999, euro-denominated bonds accounted for around 45 per cent of the bonds issued in the international market, against 43 per cent for US dollar-denominated bonds, and well above the 35 per cent aggregate share for bonds denominated in the legacy currencies in 1998 (according to the information compiled by Capital Data). Against this backdrop, corporate issues soared, partly in connection with large M&A deals, which were facilitated by the broadening of the market (Annex III). The average size of the issues also surged, a new global record being set in mid-1999 with a €9.4 billion issue by an Italian entity. Their larger size should boost liquidity. Even so, there remains ample room for further securitisation in the euro area, as the volume of debt securities issued by the private sector is only about one third of that in the United States, and given the economies of scale a broadened market offers to issuers.[47] The corporate and mortgage-backed bond markets are thus expected to develop vigorously over the coming years.

A number of sovereign issuers (including Argentina, Brazil, Canada, the Philippines and South Africa) have launched significant euro-denominated issues with a view to increase the weight of the euro in the currency distribution of their foreign debt. In some cases, however, the proceeds were converted into dollars to repay dollar-denominated debt. This has been seen by some commentators as contributing to weakening the euro, but the relative size of the amounts involved suggests that such operations cannot have had more than a very marginal impact (thus far, 90 per cent of the issues have emanated from the euro area).

As concerns public issuers in the euro area, competition among debt managers has improved the overall liquidity and efficiency of the area-wide markets. But now that exchange-rate risk has been eliminated, questions have been raised as to whether some co-ordination among issuers may be desirable. It has even been proposed that Member States create a single body responsible for issuing a large portion of euro area government bonds, on the grounds that this would largely eliminate remaining market fragmentation and ensure lower interest rates for issuers, especially for smaller countries which still face significant interest premia because of liquidity constraints in their national bond markets (de Silguy, 1999). It has also been argued that co-ordination would help homogenise maturities so as to support the establishment of a euro-area term structure of interest rates which would facilitate efficient pricing. While some progress has already occurred by way of information sharing, no other co-ordination is foreseen at this juncture. One reason is the concern that attempts to mix credit risks of sovereign issuers could undermine the credibility of the no bail-out clause of the Treaty, and even result in euro area average government debt, debt service payments and credit risk being higher than otherwise.

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While some segmentation remains in equity markets, integration is proceeding. Investors are replacing national benchmarks by euro area-wide indices (Dow Jones Euro Stoxx, Standard & Poor's Euro, Morgan Stanley Capital International Euro).[48] More and more, institutional investors hold a euro area-wide rather than a country-by-country view, with sectors becoming more important to distinguish risk classes than countries. Trading in derivatives associated with the euro area-wide indices has soared, as it has for interest rate futures and options.

On the foreign exchange markets, the euro instantly established itself as one of the key world currencies. Euro/dollar trading is now the deepest segment of the global foreign exchange market. At the end of 1998, 60 per cent of official foreign exchange reserves world-wide were denominated in dollars, against 15 per cent for the euro area national currencies. The share of the latter fell at the start of Stage Three when the Eurosystem's reserves previously denominated in the euro area national currencies became domestic assets. Over time, however, the euro's role as a reserve currency is likely to increase.[49] The euro is an anchor currency in many emerging market and in other European countries: by mid-1999, some 50 European and African countries had a peg to – or a managed float against – the euro or a basket of currencies including the euro as an important component. These countries thus have a strong incentive to hold a significant fraction of their reserves in euros. The euro is also likely to become a more important reserve currency in Asia and Latin America, as countries in those regions reassess their reserve management options in light of the new diversification opportunities offered by the euro.

Financial fragilities and supervision[50]

Driven by the prospect and now the reality of EMU as well as by technological progress and intensified global competition, significant restructuring is taking place in the banking sector.[51] A first noteworthy trend is consolidation: the number of credit institutions in the euro area has declined from 11 200 in the mid-1980s to 7 900 in late 1999, with the largest drop recorded for co-operative and savings banks (the total number of commercial banks increased meanwhile). A second and related trend is concentration. The share of the assets of the largest credit institutions in the national market has tended to increase in most countries, notably as a result of mergers among large banks, the number of which surged in 1999. Most of those mergers, however, occur within national borders, often reflecting the national authorities' avowed or implicit desire to build up "national champions".[52] A risk here is that increased market power will be detrimental to smaller or unsophisticated bank clients, who unlike larger or more adroit ones cannot easily switch to foreign banks or capital market funding. A third and closely linked trend is the mounting pressure to reduce existing excess capacity. While

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the number of credit institutions has been shrinking, and notwithstanding the development of automated teller machines (ATMs) and remote banking, the number of branches and bank employees per inhabitant had generally not decreased much through 1998, not least because banking has traditionally been a relatively sheltered sector. Hence, intensified competition and the take-off of telephone and Internet banking are likely to reduce branching and staffing over time, as foreshadowed by the experience of Finland (Box 6). A fourth trend is conglomeration, with the emergence of institutions selling services cutting across traditional boundaries, notably the one between banking and insurance.

Box 6. Remote banking, branching and staffing, and "e-money"

The early take-off of remote banking in Finland illustrates the considerable impact that technological change is likely to have in the EU at large over the coming years. While the introduction of ATMs for cash withdrawals and of new electronic formats for corporate payments in the second half of the 1980s did not entail significant capacity compression, the launch of multi-purpose ATMs and telephone banking in the first half of the 1990s and the surge of Internet use since the mid-1990s have led banks to scale down their branch networks and to halve staffing in only seven years. As a result, staff costs dropped from 2.1 per cent of non-bank deposits in 1990 to 1.2 per cent in 1997 (against a more limited decline from 2.3 to 2.0 per cent in the EU overall). The expansion of electronic banking services was spurred by the need to cope with the restructuring of the banking sector after the severe banking crisis of the early 1990s and facilitated by the absence of legal or other impediments, the widespread use of PCs in the workplace, at home and as portable devices, and differential pricing.[1]

Another trend associated with technological progress in the area of telecommunications is the emergence of "electronic money", in the form of electronic purses storing monetary value on chip cards or computer memory for the purchase of goods and services via Internet. To the extent such "e-money" can be created by non-banks, questions arise concerning monetary control and supervision. Those questions have also arisen in the context of ongoing discussions on a draft EC directive regulating the issuance of electronic money. An adequate regulatory framework would promote e-commerce, which for the time being represents only a tiny fraction of private consumption but is bound to expand rapidly, propelled by free Internet access and safer online purchasing.

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[1] The average cost of a payment via Internet is estimated to amount to only about one-tenth of that of a payment through traditional channels.

In this context, several sources of vulnerability are apparent, calling for heightened vigilance on the part of supervisors. Harsher competition and thinner interest margins on existing loans may lead some banks to increase the share of riskier and higher margin lending in their portfolios. The levelling off of public debt stocks will work in the same direction. At the same time, non-interest revenues from currency conversion and cross-border payments are bound to shrink: on one recent estimate, they would decline by 13 per cent per annum in the European Union between 1997 and 2007 (assuming that all 15 European Union countries will have joined the euro area by then), mainly as a result of dwindling income from wholesale payments (Boston Consulting Group, 1999).[53] Another disquieting trend is sustained and very rapid credit growth in some euro area countries, at a pace exceeding what growth and the development of banking would seem to justify, which may have contributed to the possible build-up of local asset bubbles, especially in some of the "peripheral" countries (Table 3). Identifying such bubbles *ex ante* is notoriously difficult, however, and it cannot be ruled out that some of the asset price surges would be consistent with the underlying fundamentals, such as a sharp decline in the discount rate applied to future income flows associated with the interest rate convergence process ahead of EMU.

Against this background, the jurisdictions of monetary policy and banking supervision ceased to coincide at the start of 1999 in the euro area. As noted in the previous EMU study, supervision remains largely decentralised, notwithstanding the preference expressed earlier by some central bankers for more centralisation.[54] Each country retains the responsibility to supervise the banks headquartered within its boarders, both as concerns their domestic operations and the activity of their branches in other European Union countries (home-country control principle): every bank thus has the right to conduct business throughout the European Union using the licence granted by a single national supervisor.[55] While a number of key supervision rules have been gradually harmonised since the 1970s across European Union countries through various directives, important differences remain, including the attribution of supervisory authority, the tools used, the provisions for bank liquidation and restructuring (for which a draft directive has long been stalled), and the legal status of financial contracts. Over time, however, regulatory competition will push for convergence in those areas.

Co-ordination and co-operation among national supervisors is organised as follows. Bilateral memoranda of understanding have been signed between virtually all European Union supervisory authorities pertaining to information-sharing. At the multilateral level, three bodies cover the banking sector:

- The Banking Advisory Committee – composed of representatives of the European Union ministries of finance, banking supervisory authorities and NCBs – mainly assists the European Commission in the preparation of new proposals for European Union legislation.

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- The Banking Supervision Committee of the ESCB – gathering representatives of European Union banking supervisory authorities, NCBs and of the ECB – assists the Eurosystem in its tasks relating to prudential supervision and financial stability. It reviews macro-prudential issues, monitors relevant banking and financial developments and ensures co-operation and information exchange between the Eurosystem and supervisory authorities. It has four working groups:
  - A Working Group on Macro-prudential Analysis assesses the stability of European Union banking systems by identifying and examining developments which could threaten it. To this end, it has set up an analytical framework combining banking system, macroeconomic and financial indicators with insights derived in the course of supervision. It regularly reviews European Union banks' credit exposure towards emerging and developing countries.
  - A Working Group on Banking Developments analyses the forces shaping European Union banking systems. It has prepared reports published by the ECB on the possible effects of EMU, technological change and bank income structure. It currently studies mergers and acquisitions as well as the evolution of corporate structures in the European Union financial services industry and bank-customer relationships.
  - A Working Group on Credit Registers gathers those European Union central banks which operate such registers, with a view to achieving a better co-ordination between them. The corresponding supervisory authorities also participate in the Group.
  - A Working Group on Early Warning Systems serves as a forum for the exchange of information and experience among European Union central banks and supervisory authorities on risk assessment systems. It has examined the risk assessment systems used by supervisors for the early identification of institutions facing a heightened risk of failure.

- The Banking Supervision Committee can also operate as a forum for consultations on issues not falling within the competence of the Eurosystem. A *Groupe de Contact* brings together three times a year representatives of the European Economic Area banking supervisory authorities, to exchange information on banking regulation and supervisory practices, including on individual cases. In addition to its own agenda, the *Groupe* may report to the two other committees.

Finally, understandings have been reached in April 1999 in the form of a confidential agreement within the Eurosystem concerning emergency liquidity assistance to individual ailing institutions. The main guiding principles are that the provision of such emergency assistance, if and when appropriate, is primarily a responsibility of the NCBs, and that the associated costs and risks are borne at the national level. The Eurosystem has indicated that mechanisms have been put in place to exchange the relevant information so that the impact on liquidity in the euro area can be managed in a way consistent with an unchanged monetary policy stance and cross-border consequences can be dealt with. In addition, the Eurosystem is prepared to handle a general liquidity "dry-up" resulting for example from a payments system gridlock or a sudden drop in stock market prices. In such cases, liquidity shortfalls should be covered through collateralised intraday or overnight credit, or auctioning extra liquidity to the market.

This decentralised set-up has been criticised on a number of grounds. *First*, it is argued, the institutional and geographical separation of supervision from monetary policy may not be optimal, given the complementarities between those two functions: information gathered by bank supervisors may reveal problems foreshadowing the deterioration of macroeconomic conditions, or provide advance notice of changes in bank lending behaviour, and should therefore be directly accessible for monetary policy purposes (Peek *et al.*, 1999). A counter-argument, however, is that separation may help limit the scope for the priority conflicts that might on occasion arise if the ECB were entrusted with supervisory duties. *Second*, some contend, cross-border consolidation could lead to the emergence of heavy-weight pan-European universal banks that are difficult to monitor for the home-country supervisor, notwithstanding the co-operative arrangements in place between national supervisory bodies. Standing against this view is the one that a decentralised set-up ensures that supervisors have a far better knowledge of the institutions under their umbrella and avoids the possible dilution of responsibilities. *Third*, it is argued, centralising supervision would allow for economies of scale and scope, both for credit institutions and for regulators. *Fourth*, it is noted that national supervision may entail incentive problems: as illustrated by past experience, national supervisors are at times too close to the institutions they regulate, at the risk of being captured, and may tend to resist cross-border mergers; also, when accountable for domestic financial stability, a NCB governor could face a conflict of priorities if the need for an interest rate hike arises at a time when domestic banks are in dire straits (a potential conflict now much diminished, however, with monetary policy set by the Eurosystem). *Fifth*, some fear that co-ordination in case of a sudden systemic crisis would involve more parties and would likely be slower than in the United States, implying that efficient *ex ante* supervision is even more important in the European Union. This would matter all the more as the advent of the euro increases the likelihood of the propagation of instability across borders, in particular insofar as the expansion of cross-border interbank lending largely takes place in unsecured fashion, as it does in the absence of an European Union-wide repo market. *Sixth*, it is claimed, the requirement that all Eurosystem credit be collateralised may

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hamper its ability to respond swiftly enough to a liquidity crunch, leading to the suggestion that it may be desirable to spell out that the rules for collateral can be suspended in a crisis. Invoking some or all of these reasons, commentators have called for centralised supervision, be it under the auspices of the ECB itself or – to avoid an excessive concentration of power – of a separate and independent agency.[56] The consensus among European supervisors is, however, that the present decentralised arrangements allow for efficient co-ordination.[57]

The arrangements put in place by the Eurosystem concerning emergency liquidity assistance have indeed clarified responsibilities and procedures in this area. Their broad features are public knowledge and the ECB has stressed that the regular communication channels allow swift decision making within the Eurosystem if needed. Eurosystem officials have also emphasised, in response to the criticisms, that it is important to maintain some degree of "constructive ambiguity" if moral hazard is to be contained. Moreover, since no two emergencies are alike, a detailed and public "Manual for emergencies" could be counterproductive (and for this reason is not usually made available by the relevant authorities outside the European Union either). At the same time, they have acknowledged that efforts should be stepped up to deepen co-operation in prudential supervision, as there remains room for progress notably with respect to information pooling and the standardisation of reporting requirements and examination practices, in the face of increasingly integrated banking systems in the euro area and the European Union at large (Padoa-Schioppa, 1999).

The new supervisory arrangements have not really been tested yet. The European banks weathered the 1997-98 emerging market crises relatively well and the changeover to the euro proceeded smoothly. While this is reassuring, uncertainties remain, not least with respect to the adequacy of decentralised supervision if and when a large pan-European institution unexpectedly runs into trouble. Under the current arrangements, further efforts are certainly called for with respect to the harmonisation of risk-provisioning rules, more frequent and timely centralisation of information on banks' country risks and refining and stress-testing market risk management models.

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III. Fiscal policy in the short and longer run

Fiscal policy in the European Union at large and in the euro area in particular largely remains a national prerogative, unlike in full-fledged federations. The European Union's own budget is relatively small and mainly devoted to agricultural and structural aid, totalling less than 1.3 per cent of European Union GNP and only around 2½ per cent of European Union general governments' expenditure (Box 7). The evolution of the fiscal stance within European Union countries and at the aggregate level thus essentially depends on that of national budgets. With a view to have the latter internalise their area-wide effects, multilateral surveillance of national fiscal policies has been stepped up considerably.[58] Specifically, it takes the form of stability programmes for euro area countries and of convergence programmes for the "outs". This chapter discusses the parameters of these programmes as well as their implementation and analyses the fiscal stance in 1999 and over the next two years. It tries to ascertain how ambitious the current fiscal targets are, and puts them in a longer-run perspective with a brief discussion of the challenges most European countries face in the coming decades, mainly stemming from ageing populations.

Stability and convergence programmes: first generation and updates

The Stability and Growth Pact (SGP) adopted by the European Union Council in 1997 stipulates that Member States adhere to the medium-term objective of budgetary positions "close to balance or in surplus", on the grounds that this should allow them to keep the general government deficit below 3 per cent of GDP in the face of "normal" cyclical fluctuations without resorting to pro-cyclical fiscal tightening. Subject to certain provisions, including a waiver in the event of exceptionally severe recessions, pecuniary sanctions can be applied if the deficit threshold is crossed.[59] Subsequent discussions in the relevant fora led to an understanding that: *i)* the medium-term objective should be interpreted as pertaining to the underlying (cyclically-adjusted or "structural") fiscal balance and achieved by 2002; *ii)* supplementary safety margins would be needed in case countries wanted to be able to pursue active counter-cyclical fiscal policy over

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Box 7. EU finances through 2006

In March 1999, the European Council reached an overall agreement on a financial framework extending through 2006 (*Agenda 2000*), and covering three broad areas (amounts expressed in constant 1999 prices):

- Agriculture: a cumulative budget of €298 billion for 2000-06 (including rural development) is foreseen, representing 42.3 per cent of total appropriations (including enlargement expenditure); agricultural expenditure is to be stabilised in real terms, with reductions in support prices (backloaded for dairy products, more frontloaded for cereals) and increases in direct aid to farmers.
- Structural funds: the number of objectives is reduced to three (promote the development and structural adjustment of lagging regions; support the conversion of areas facing structural problems; support the adaptation and modernisation of policies and systems of education, training and employment); a cumulative amount of €195 billion, or 27.7 per cent of total appropriations, is set aside for those funds.
- The Cohesion Fund (supporting environmental and trans-European network projects): the four current beneficiaries (Spain, Portugal, Greece and Ireland) will continue to be eligible in the short run but a review of eligibility will be undertaken at mid-term. Some €18 billion, or 2.6 per cent of total appropriations, will be cumulatively committed.

Furthermore, the EU's own resources ceiling is to remain at the current level of 1.2 per cent of EU GNP, but contributions will depend a bit less on members' VAT receipts and a bit more on their GNP. The United Kingdom rebate is maintained, but the contribution of Austria, Germany, the Netherlands and Sweden to its financing is reduced. Regarding enlargement, the underlying technical assumption is that new members would join, starting from 2002. Expenditure related to pre-accession (€3.1 billion per annum) and accession (rising from €4.1 billion in 2002 to €14.2 billion in 2006) is ring-fenced, *i.e.* cannot be appropriated for other purposes.

and above the action of the automatic stabilisers, as well as to cope with unforeseen tax shortfalls or other adverse, non-cyclical fiscal shocks (such as a more rapid than expected expansion of spending on entitlement programmes); *iii)* high-debt countries had to secure a steady decline in their debt ratio, since their fiscal balance is more vulnerable to adverse interest rate shocks; and *iv)* extra consolidation efforts were required to prepare for the fiscal burden of future demographic developments, especially for countries where pensions are mostly financed on a pay-as-you-go basis.[60]

In practice, multilateral surveillance is exercised through the annual submission to the Commission of programmes containing macroeconomic and fiscal projections showing how countries plan to reach (or surpass) the medium-term objective (see Table 4). If new measures are needed to that effect, they are to be described. Some sensitivity analysis is also expected. Convergence programmes

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Table 4. **Growth and fiscal projections in the stability and convergence programmes**[1]

	First set of programmes (late 1998-early 1999)								Updates									
	Annual real GDP growth in %		Fiscal balance in % of GDP				Public debt in % of GDP		Annual real GDP growth in %		Fiscal balance in % of GDP					Public debt in % of GDP		
	1999	2000-01/2	1999	2000	2001	2002	1999	2001/2	1999	2000-02/3	1999	2000	2001	2002	2003	1999	2002	2003
Austria	2.8	2.3	–2.0	–1.7	–1.5	–1.4	63.5	60.0	..	..	..	..	..	..	..	..	..	..
Belgium	2.4	2.3	–1.3	–1.0	–0.7	–0.3	114.5	106.8	1.7	2.4	–1.1	–1.0	–0.5	0.0	0.2	114.9	105.0	101.3
Finland	4.0	2.6	2.4	2.2	2.1	2.3	48.5	43.2	3.8	3.0	3.1	4.7	4.2	4.6	4.7	46.6	38.0	35.2
France[2]	2.7	3.0	–2.3	–1.7	–1.2	–0.8	58.9	57.1	2.8	3.0	–2.1	–1.7	..	..	–0.3	60.3	57.9	56.8
Germany	2.0	2½	–2	–2	–1½	–1	61	59½	1½	2½	–1.2	–1	–1½	–1	–½	61	59½	58½
Ireland[3, 4, 5]	6.7	6.1	1.7	1.4	1.6	..	52	43	8.4	6.5	1.4	1.2	2.5	2.6	..	52	36	..
Italy[3]	2.5	2.8	–2.0	–1.5	–1.0	..	114.6	107.0	1.3	2.6	–2.0	–1.5	–1.0	–0.6	–0.1	114.7	104.3	100.0
Luxembourg	3.4	3.7	1.1	1.2	1.3	1.7	< 6.7	< 6.7	4.9	5.1	2.3	2.5	2.6	2.9	3.1	4.3	..	..
Netherlands[6]	2.9	2	–1.3	..	..	–1.1	66.4	64.5	2¾	2.2	–0.6	–0.6	–1.3	–1.1	..	64.3	61.0	..
Portugal[2]	3.5	3.3	–2.0	–1.5	–1.2	–0.8	56.8	53.2	3.1	3.5	–2.0	–1.5	–1.1	–0.7	–0.3	56.6	53.3	51.0
Spain[2]	3.8	3.3	–1.6	–1.0	–0.4	0.1	66.4	59.3	3.7	3.4	–1.3	–0.8	–0.4	0.1	0.2	63.5	58.1	55.8
Denmark[3]	1.7	2.0	2.5	2.8	2.6	..	56	49	1.3	2.0	2.9	2.1	2.2	2.3	2.5	55.0	46.5	43.4
Greece[3, 4]	3.7	4.2	–2.1	–1.7	–0.8	..	105.8	99.8	3.5	4.1	–1.5	–1.2	–0.2	0.2	..	104.2	98.0	..
Sweden[2, 3]	2.2	2.5	0.3	1.6	2.5	..	71.4	58.0	3.6	2.4	1.7	2.1	2.0	2.0	..	66.1	52.0	..
United Kingdom[4, 6, 7]	1	2½	–0.3	–0.3	–0.1	0.2	46.7	42.0	1¾	2¼	0.3	0.2	0.2	–0.1	–0.4	44.9	39.9	38.8

1. For some countries, the initial programmes run beyond 2002. The updates in some cases run beyond 2003.
2. Updates partly or fully based on ESA95.
3. First programme (and hence projections and targets) running only through 2001.
4. Data based on ESA95.
5. Adjusted for pension prefunding and once-off costs.
6. Cautious scenario.
7. Fiscal variables are presented on a financial year basis (year t stands for FY t/t+1).

Source: European Commission and national authorities.

must also lay out monetary policy intentions. The first batch of programmes was submitted between June 1998 and February 1999, and generally extended through 2001 or 2002.[61] For the euro area as a whole, and aggregating national submissions using the cautious scenario when several are entertained, the deficit was projected to decline from 1.8 per cent of GDP in 1999 to 1.1 per cent in 2001 (and for the European Union, from 1.4 to 0.8 per cent).

Based on Commission recommendations, the Ecofin Council adopted and published its opinion on each of the programmes between October 1998 and March 1999. It noted that most Member States did indeed target a balance consistent with the SGP objective, with Ireland and Luxembourg having already achieved the latter. It considered, however, that the positions targeted by the Netherlands, Austria and Portugal did not provide a sufficient safety margin to insure against adverse cyclical or fiscal surprises, that France ought to include an additional safety margin to prepare for unforeseen budgetary developments and that so did Germany, Spain and Finland to prepare for the future burden on the budget of population ageing. The Council further recalled the need for Belgium and Italy to secure a steady decline in their public debt ratio. As regards the "outs", the Council deemed that the underlying fiscal position of the United Kingdom, Denmark and Sweden was already consistent with the medium-term objective,[62] and that Greece's would be there by 2001.[63]

As of early 2000, the updates of the programmes had been submitted for 14 countries. They reflect the downward revision of 1999 growth in a number of countries,[64] but also the unexpected buoyancy of tax receipts witnessed in several, including France and Germany, and lower interest rates than factored into most national budgets. The growth projections for 2000 and beyond have undergone significant changes in some countries, be it upwards (Finland) or downwards (Italy).[65] Encouragingly, so far the projected deficit in the outer years is nowhere larger (or the surplus smaller), including where growth prospects have been marked down, and by and large the same holds for the public debt ratio. Even so, in countries facing overheating pressures, such as the Netherlands or Sweden, more emphasis should have been placed on the use of the fiscal lever to contain them. In this regard, the growth scenario underlying the Dutch programme is perhaps overly cautious, and should not be allowed to serve as a pretext to let the deficit widen.

The fiscal stance: gradual tightening to provide room for the automatic stabilisers

For the euro area as a whole, the OECD's deficit and debt projections (Figures 20 and 21) are consistent with what emerges from the updates available thus far. They provide for gradual fiscal adjustment, combining continued

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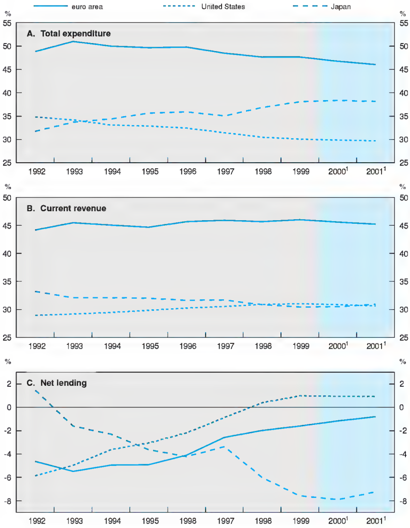
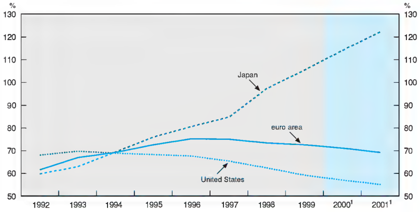
Figure 20. **Government expenditure, revenue and net lending**
Per cent of GDP



1. OECD projections.
Source: OECD Secretariat.

Figure 21. **Public debt**
Gross, in per cent of GDP



1 OECD projections.
Source: OECD Secretariat.

consolidation with both taxes and outlays rising less rapidly than GDP. The euro area deficit is projected to shrink from 1.6 per cent of GDP in 1999 to 0.8 per cent in 2001, and the debt ratio from 72.9 to 69.5 per cent of GDP (Table 5).[66] While such a deficit level is reminiscent of the 1960s, the debt level is far higher. Tax pressure broadly defined would decline by 0.8 percentage point of GDP, from a historical peak in 1999 of 46 per cent of GDP. Public expenditure as a share of GDP would decrease twice as much, only partly owing to lower interest payments, bringing it by 2001 to 5 percentage points below its 1993 maximum. Expenditure restraint is governed in some countries by broad rules, for instance in France and in the Netherlands where pluri-annual norms have been set for the growth of general government outlays in real terms. In a welcome contrast with the run-up to monetary union, planned spending cuts are no longer concentrated on public investment, which is actually programmed to increase in several countries.

If the deficit is adjusted for cyclical developments, however, the projected tightening is only half as much, amounting to 0.4 percentage point of GDP spread evenly over the next two years. The projected headline and adjusted deficit ratios for 2001 are nonetheless very close as the output gap would be almost closed by that time. The pace of adjustment has slowed down since 1998,

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Table 5. **Euro area fiscal indicators**

Per cent of GDP

	1992	1993	1994	1995	1996	1997	1998	1999	2000[1]	2001[1]
Financial balances										
Net lending	–4.6	–5.5	–4.9	–4.9	–4.1	–2.6	–2.0	–1.6	–1.2	–0.8
Primary balance	–0.0	–0.8	–0.4	–0.1	0.7	2.0	2.2	2.3	2.6	2.8
Structural balance	–4.9	–4.5	–4.2	–4.4	–3.3	–1.9	–1.6	–1.1	–0.9	–0.7
Primary structural balance	–0.3	0.1	0.3	0.3	1.5	2.7	2.6	2.8	2.8	2.9
Gross saving	–1.3	–1.9	–1.6	–1.6	–1.3	–0.2	0.7	1.2	1.7	2.1
Government debt	61.0	66.5	69.1	73.4	74.9	74.5	73.7	72.9	71.5	69.5
Spending and revenue										
Total expenditure	48.8	51.0	50.0	49.6	49.8	48.5	47.7	47.6	46.8	46.0
Gross interest payments	5.5	5.6	5.3	5.4	5.4	5.1	4.7	4.4	4.2	4.1
Total revenue	44.2	45.5	45.0	44.7	45.7	45.9	45.7	46.0	45.6	45.2

1. OECD projections.
Source: OECD Secretariat.

perhaps reflecting "Maastricht fatigue" accumulated during the run-up to EMU as well as a concern in some countries to support aggregate demand. But both the actual and the underlying fiscal deficits stand at their lowest levels since the late 1970s, and are programmed to improve further. Notwithstanding, several countries still had a deficit of around 2 per cent of GDP in 1999, and continued consolidation could be jeopardised if for example the euro area were to be hit by an adverse exogenous interest rate shock.[67] On current policies, the full effect of a lasting ¾ percentage point increase in interest rates would on average be as large as the projected improvement in the headline fiscal balance.[68] This uncomfortable proximity to the 3 per cent ceiling has prompted proposals to somehow circumvent it – either for the area as a whole and/or for individual countries – by amending the rules governing the SGP (Box 8). Such proposals have lost some of their prominence in the past year, but could come back to the fore were the outlook to take a turn for the worse.[69]

Progress with fiscal consolidation has to be assessed in relation to what can be estimated as a "safe" position, in the sense that it provides sufficient room for the automatic stabilisers to operate freely in the face of unexceptional cyclical swings in activity without breaching the 3 per cent deficit limit. As explained in more detail in the previous EMU study, various approaches have been followed to quantify such benchmarks for European Union countries. One is to combine the mid-point of alternative estimates of the maximum likely output gap with estimates of the cyclical sensitivity of the budget (EC, 1999*f*). Another is to estimate a structural model to assess the effects of fiscal, monetary, supply, and real private demand shocks on the deficit ratio and on that basis to carry out stochastic simulations to derive estimates of "safe" positions at various horizons and confidence levels (Dalsgaard and de Serres, 2000). In both approaches, the higher the volatility of economic activity and the sensitivity of the budget to the cycle, the more exacting the estimated safety level. In this regard, it should also be noted that the size of the automatic fiscal stabilisers varies considerably across countries: it is typically larger where government spending represents a greater share of GDP, although not systematically so.[70]

Given that different approaches lead to divergent estimates of safety levels, it would seem justified to evaluate countries' fiscal stance in light of a range of estimates rather than to focus exclusively on one methodology. Based on a set of different approaches,[71] and on the OECD projections for the structural balance in 2001,[72] most of the 11 countries for which intervals were computed reach the safety range by 2001 or end up above, with the notable exception of Austria (Figure 22). In some of the countries most comfortably positioned on this scale, there may nonetheless remain a need to tighten fiscal policy further, as a means to contain overheating pressures in a context where the stance of monetary policy is set as a function of euro area-wide cyclical conditions. Besides, the approaches used in this exercise do not factor in measurement and forecasting

Box 8. By-passing the 3 per cent deficit constraint

The discipline imposed by the SGP has been viewed as overly restrictive by some observers, and various proposals have been floated to make the 3 per cent deficit ceiling less of a constraint.[1] Among them, the following stand out:

- *Using part of the central banks' foreign exchange or gold reserves to fund public spending.* Fiscal pressures have led some to suggest that a portion of the foreign exchange or gold reserves held by NCBs could be used to finance worthy public expenditure programmes without increasing public debt, possibly via a special European fund managed by the European Investment Bank. While it cannot be ruled out *a priori* that NCBs hold more reserves than necessary in EMU (as the euro area is much less open than Member countries), their use in this way would not leave the public balance sheet *lato sensu* unaffected (Gros *et al.*, 1999). If they are to be drawn down, they should be used to retire public debt (which typically costs more than what reserves earn).
- *Excluding investment spending from the deficit measure.* In a *Manifesto*, Modigliani *et al.* (1998) proposed to redefine the fiscal balance as the balance on current (as opposed to capital) operations. The idea was to relax the fiscal stance in a growth-enhancing fashion, in light of the observation that the brunt of fiscal adjustment effort often tends to be borne by public investment outlays, which are easier to cut than current ones. The extra spending would be concentrated on infrastructure and job creation schemes. Such a dramatic revision of the rules might harm the credibility of the commitment to fiscal sustainability and push up long-term interest rates. Also, an increase in what is classified as public investment spending in the national accounts is not necessarily preferable to a tax cut, an increase in outlays for human capital formation or even a deficit reduction (Balassone and Franco, 1999). Furthermore, the implied increase in the fiscal deficit would also push up already high debt ratios.
- *Trading deficit permits.* Borrowing from the experience with sulphur dioxide emission permits in the United States, it has been proposed to introduce a system of tradable deficit permits (Casella, 1999).[2] Indeed, as in the case of atmospheric pollution, deficit spending in one country entails costs for the others in the form of higher long-term interest rates that it does not fully internalise. Based on an aggregate target for the euro area as a whole and an initial distribution of permits, member countries would be allowed to trade rights to deficit creation. In contrast to the SGP, the scheme would reward countries for reducing their deficit below the initial allowance (by enabling them to sell unused rights) and could be designed to penalise countries with higher debt to GDP ratios (by endowing them with a smaller allocation). The price of permits would rise in the wake of adverse area-wide shocks, ensuring that the overall ceiling would not be breached. The political economy of this ingenious mechanism is problematic, however, even if safeguards are put in place by prohibiting borrowing against future permit allocations and the like. In particular, it may be very difficult to agree on a fair initial allocation of permits, and the "market" for permits would be a rather peculiar one, where pricing might easily become politicised.

Those proposals thus suffer from major intrinsic weaknesses. It should also be stressed that fiscal adjustment efforts in the run-up to EMU would have been

(continued on next page)

(continued)

necessary irrespective of monetary unification, even if they would likely have been slower in the absence of the Maastricht criteria. And a continuation of these efforts is necessary in view of European Union countries' medium-term economic and demographic prospects.

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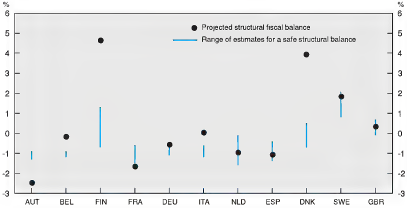
1. These proposals surfaced after the selection of the countries qualifying for Stage Three of EMU.
2. This scheme could be seen as complementing official proposals to focus surveillance more on an aggregate stability programme for the area as a whole.

errors. As stressed in Box 1, the ongoing shift to ESA95 complicates the analysis of economic developments and leads to major reassessments. Fiscal forecasts have often been widely off the mark in the past, even after controlling for growth surprises, and errors may now be magnified by the regime shift imparted by monetary unification. Both types of considerations suggest that it would be wise to err on the side of caution. In addition, this exercise ignores debt levels and other longer-run fiscal constraints taken up below, which in most cases point to the need for a more rapid and ambitious consolidation.

Figure 22. **Projected structural fiscal balance for 2001**[1]

In per cent of GDP



1. As projected in *Economic Outlook* No. 66.

Source: OECD Secretariat.

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Medium and long-run fiscal challenges: working down high debts and coping with ageing

This section turns to selected longer-run fiscal trends and challenges. It focuses on the need to bring excessive debt levels down and on the demographic pressures lying ahead, which are underlined in the Council opinions on the stability and convergence programmes. Some important developments and problems are thus not covered. They include the (partial or total) privatisation of traditional state monopolies, particularly in network sectors, which has been stepped up in countries such as France and Italy. They also embrace state aid (direct subsidies and guarantees), an area where the rules have started to be implemented more resolutely by the Commission.[73] Tax harmonisation (or competition) is another of those major issues, but as yet little has changed since the discussion in the previous EMU study, notwithstanding extensive deliberations, notably on the taxation of non-residents' savings income.

The SGP is silent on the debt criterion spelled out in the Treaty (in Article 104 and the associated Protocol). Even so, as noted above and in the light of the debt provisions contained in the Treaty, it is recognised that where the ratio of gross public debt to GDP exceeds the 60 per cent benchmark, it ought to clearly remain on a declining path.[74] The speed of consolidation is not specified, however. Yet, simple illustrative debt arithmetics suggest that required average fiscal balances depend crucially on the considered horizon. If, for example, it is assumed that a "satisfactory pace" would have the debt ratio coming down to 60 per cent of GDP by 2010, starting from the end-period debt ratios featuring in the stability programmes, Belgium and Italy would have to maintain budget balances well above, on average, what any of the three aforementioned approaches suggested. Indeed, in both cases, the required surpluses would amount to around 2¾ per cent of GDP.[75] But extending the horizon to 2015, for instance, would call for surpluses to average significantly less, at ½ per cent of GDP.

On top of the debt burden that is already explicitly recorded in the national accounts, most European Union countries – like most OECD countries at large – face commitments to future outlays exceeding the fiscal revenue that can be projected on the basis of current policies. To a large extent, this reflects the forthcoming increase in dependency ratios (Figure 23), starting from a situation where employment rates of older workers are generally low (Figure 24). Estimates of those looming additional liabilities vary considerably depending on the methodology and base year, but for most countries they tend to suggest that the recorded debt understates the potential "negative bequest" of current to future generations, in some cases very dramatically so. A host of OECD studies have attempted to quantify the problem and have proposed measures to address it, in various combinations depending on country-specific parameters. They include:

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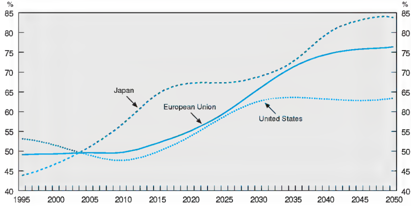
Figure 23. **Dependency ratios**[1]

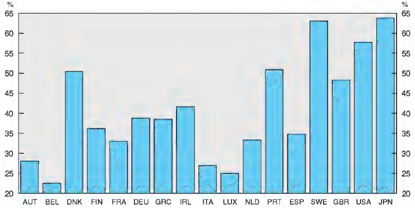
Per cent



1. Population aged 14 and below and 65 and over as a per cent of working age population.
Source: United Nations.

Figure 24. **Employment rate of older workers**[1]

In 1998



1. Employment of workers aged 55-64 in per cent of the population in that age group.
Source: OECD, *Labour Force Statistics.*

reducing the options and financial incentives to retire before the statutory age and the disincentives to retire later; lengthening required contribution periods; gradually reducing public pension benefit generosity, for example by shifting from wage to price indexation; anticipatory hikes in contribution rates (albeit only as a last-resort option for countries where fiscal pressure is relatively low); moving towards a more diversified structure of retirement income encompassing a larger portion of advance-funded pension income, private savings and earnings (which may call for a review of the tax regime governing retirement savings and strengthening financial sector supervision); and the improvement of the cost-effectiveness of health and long-term care for the elderly (not least as regards the use of intensive care technologies for age-related diseases and the budgetary incentive distortions leading to unduly keeping some frail older people in costly hospital-type environments).[76] Moreover, in the European Union context, as pointed out in the previous EMU study, much remains to be done to improve the cross-border portability of pensions.

Recent work under the aegis of the Commission and based on generational accounting offers a complementary perspective.[77] It starts from the intertemporal budget constraint that all present and discounted future government expenditure must be covered by existing government net wealth or present and discounted future taxes. Based on a discount rate of 5 per cent in real terms, and extrapolating the national authorities' demographic projections two centuries into the future, this approach reveals disquieting imbalances between current and future generations. For some countries, those imbalances mainly reflect a high outstanding government debt (*e.g.* Italy and Netherlands), but in most cases the bulk of the burden passed on to future generations pertains to the entitlements associated with generous pay-as-you-go dominated social insurance systems. The total intertemporal liability varies considerably across countries. As of 1995, it was most worrying in Spain, Austria and Finland. Substantial reforms of the tax and social security system have been enacted in some countries since, particularly in Finland, Italy and Sweden, implying that for those countries the size of the problem has shrunk significantly. In others, such as Spain, pension reform has been enacted since but may not suffice (Bonin *et al.*, 1999). Even so, it often remains difficult to reach a social consensus on some of the specific measures needed, as illustrated *inter alia* by the resistance in Germany, France and Italy to sufficiently deep or accelerated pension reform.

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IV. Market structure and macroeconomic performance

The special chapter of the previous EMU study focused on product and labour market policy issues in the euro area and argued that reforms would help countries to adjust to economic disturbances more swiftly and at a lower cost. The discussion in this chapter again takes up microeconomic policy issues, but from a different angle, by reviewing how institutional and structural features interact with macroeconomic shocks and policies. As background, the economic performance of the euro area is put in a historical and international perspective first. While slowing, productivity has been catching up with the United States, but the gap in living standards has remained substantial, largely reflecting the much lower level of labour resource utilisation in the euro area. As stressed in successive OECD *Jobs Strategy* publications, a comprehensive set of labour and product market reforms would be required to improve Europe's employment performance. Policies have indeed evolved over the last few years, partly in the context of European Union-wide initiatives. Progress was, however, slow in some countries. Overall, it appears that there remains ample room for further improvement in many Member States for stronger growth with low inflation to be realised over the medium term. Hence the policy message that comes through clearly is that structural reforms need to be stepped up in order to ensure this better performance over the medium term.

The chapter highlights a number of important interactions between institutional features and macroeconomic shocks and policies. It does so both at the national and at the aggregate level, stressing that what may take place for the area as a whole is not simply the sum of what goes on in each country. Structural conditions affect the economic impact of macroeconomic policies and their credibility. Slow adjustment of relative prices to changing market conditions can affect the capacity of macroeconomic policy to achieve monetary and fiscal policy objectives at the lowest possible cost in terms of output and employment. Slow adjustment, for instance, is likely to raise the loss of output incurred when disinflating in the wake of an adverse price shock. Moreover, adjustment following an episode of overheating and a sizeable loss of competitiveness in a euro area

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country could be protracted, especially in an environment of low overall inflation and downward nominal rigidities. These concerns should gradually ease, as the single market deepens and national structural policies become better co-ordinated. However, labour market segmentation is unlikely to wither quickly. It may even be reinforced, if intensified competition and restructuring lead to a greater European Union-wide harmonisation of social policies. On the other hand, greater competition in goods and services markets could also lead to pressures for higher wage flexibility and/or labour mobility, as the need to develop alternative adjustment mechanisms could raise the political support for bolder labour and product market reforms.

In this context, the main interactions between structural and macroeconomic factors are examined from three different angles. *First*, the chapter discusses how labour and product market institutions and policies influence overall performance via their effects on the speed at which wages, prices and quantities (employment and output) adjust to changes in economic conditions. *Second*, it examines how structural rigidities affect the capacity of macroeconomic policy to realise monetary and fiscal goals at a low cost in terms of output and employment. *Third*, it reviews how the new institutional framework for macroeconomic policy associated with Stage Three of EMU may affect the pace and direction of labour market reform. As background for this analysis, the growth performance of the euro area is reviewed in a historical and international perspective at the start of the chapter.

The sources of growth in the euro area

For the past three decades, overall GDP growth has been almost the same in major OECD regions, but its sources have differed substantially (Table 6). Based on a growth accounting method (Cobb-Douglas production function), real GDP per capita growth is decomposed into seven contributing factors: *i)* the ratio of working-age to total population, *ii)* the labour force participation rate, *iii)* the unemployment rate, *iv)* hours worked per employee, *v)* labour efficiency, *vi)* the capital intensity of production and *vii)* the terms of trade.[78]

Faster productivity growth in the euro area on average over the past three decades has led to a significant narrowing of the gap *vis-à-vis* the United States. Indeed, convergence in productivity levels with the United States was largely completed by the early 1990s for at least four European Union countries – including France and Italy (Table 7).[79] For another group of four countries, the gap amounted to less than 15 per cent in 1998, implying a gap of six per cent for the euro area. However, the relative success of euro area countries in closing the productivity gap *vis-à-vis* the United States has not been matched by a similar convergence in GDP per capita. A large difference prevails between the level of

GDP per hour worked, where the euro area has largely converged with the United States, and the level of GDP per capita where the gap has remained significant (Table 7). The 28 percentage points difference between the euro area GDP per hour and per capita relative to the United States reflects the relatively low degree of labour input in the euro area, compared with the United States. Labour input is also low in comparison with Japan, and the European Union countries that are not members of the euro area (except Greece).

Table 6. **Sources of growth in real GDP per capita**[1]

	1971-79	1980-89	1990-99	1980-99	1971-99
Euro area					
Average growth in real GDP[2] per capita	2.84	1.76	1.44	1.61	2.01
Working age population	0.20	0.51	0.00	0.27	0.25
Labour force participation rates	–0.02	–0.08	0.11	0.01	–0.00
Unemployment rates	–0.36	–0.42	–0.15	–0.29	–0.31
Hours worked[3]	–0.86	–0.73	–0.22	–0.49	–0.61
Real GDP per man-hour	3.74	2.56	1.85	2.22	2.71
of which:					
Labour efficiency[4]	3.24	2.26	1.41	1.86	2.30
Capital deepening	0.49	0.30	0.44	0.37	0.41
Terms of trade[5]	0.14	–0.08	–0.14	–0.11	–0.03
United States					
Average growth in real GDP[2] per capita	2.54	1.56	1.89	1.73	1.98
Working age population	0.70	0.02	–0.01	0.00	0.22
Labour force participation rates	0.90	0.69	0.27	0.48	0.61
Unemployment rates	–0.10	0.06	0.11	0.09	0.03
Hours worked[3]	–0.05	0.24	0.03	0.13	0.08
Real GDP per man-hour	0.96	0.80	1.66	1.23	1.14
of which:					
Labour efficiency[4]	0.90	0.72	1.84	1.28	1.16
Capital deepening	0.06	0.08	–0.18	–0.05	–0.02
Terms of trade[5]	0.13	–0.25	–0.16	–0.20	–0.10
Japan					
Average growth in real GDP[2] per capita	2.53	2.82	0.96	1.89	2.09
Working age population	–0.26	0.33	–0.15	0.09	–0.02
Labour force participation rates	0.02	0.21	0.66	0.43	0.31
Unemployment rates	–0.10	–0.02	–0.26	–0.14	–0.13
Hours worked[3]	–0.52	–0.27	–1.17	–0.72	–0.66
Real GDP per man-hour	4.22	2.85	2.34	2.60	3.10
of which:					
Labour efficiency[4]	2.37	1.89	1.17	1.53	1.79
Capital deepening	1.85	0.96	1.17	1.07	1.31
Terms of trade[5]	–0.82	–0.29	–0.46	–0.38	–0.51

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Table 6. **Sources of growth in real GDP per capita**[1] *(cont.)*

	1971-79	1980-89	1990-99	1980-99	1971-99
United Kingdom					
Average growth in real GDP[2] per capita	2.65	2.63	1.30	1.96	2.18
Working age population	0.16	0.26	–0.06	0.10	0.12
Labour force participation rates	0.28	0.29	–0.11	0.09	0.15
Unemployment rates	–0.24	–0.17	–0.00	–0.08	–0.13
Hours worked[3]	–0.74	–0.18	–0.26	–0.22	–0.38
Real GDP per man-hour	2.80	1.97	1.95	1.96	2.22
of which:					
Labour efficiency[4]	3.12	2.28	1.55	1.91	2.29
Capital deepening	–0.32	–0.31	0.40	0.05	–0.07
Terms of trade[5]	0.39	0.45	–0.22	0.11	0.20
Germany					
Average growth in real GDP[2] per capita	3.05	1.79	1.28	1.55	2.03
Working age population	0.35	0.60	–0.21	0.21	0.26
Labour force participation rates	–0.17	0.08	–0.15	–0.03	–0.08
Unemployment rates	–0.30	–0.39	–0.34	–0.37	–0.34
Hours worked[3]	–1.14	–0.61	–0.52	–0.57	–0.75
Real GDP per man-hour	4.01	1.97	2.52	2.23	2.80
of which:					
Labour efficiency[4]	3.50	1.53	2.09	1.79	2.34
Capital deepening	0.52	0.44	0.43	0.44	0.46
Terms of trade[5]	0.30	0.13	–0.02	0.06	0.14
France					
Average growth in real GDP[2] per capita	3.01	1.54	0.94	1.24	1.79
Working age population	0.19	0.41	–0.10	0.15	0.16
Labour force participation rates	0.18	–0.32	0.18	–0.07	0.01
Unemployment rates	–0.39	–0.38	–0.20	–0.29	–0.32
Hours worked[3]	–0.88	–0.76	–0.25	–0.51	–0.62
Real GDP per man-hour	3.73	2.73	1.56	2.15	2.64
of which:					
Labour efficiency[4]	3.24	2.52	1.19	1.86	2.29
Capital deepening	0.49	0.21	0.36	0.29	0.35
Terms of trade[5]	0.18	–0.13	–0.25	–0.19	–0.07
Italy					
Average growth in real GDP[2] per capita	3.38	2.49	1.17	1.83	2.31
Working age population	0.06	0.50	0.12	0.31	0.23
Labour force participation rates	0.19	–0.07	–0.11	–0.09	–0.00
Unemployment rates	–0.19	–0.49	–0.16	–0.33	–0.28
Hours worked[3]	–1.07	–0.41	–0.06	–0.23	–0.49
Real GDP per man-hour	4.02	2.58	1.50	2.04	2.65
of which:					
Labour efficiency[4]	3.76	2.32	0.72	1.52	2.22
Capital deepening	0.26	0.26	0.77	0.52	0.44
Terms of trade[5]	0.38	0.37	–0.13	0.12	0.20

1. Arithmetic average of annual growth rates over the specified period. The data are based on *Economic Outlook* No. 66. Given that several countries have recently adopted the ESA95 national accounts convention, data on capital stocks may be subject to significant revisions. While labour productivity (real GDP per man-hour) would not be affected by revisions to capital stock data, the split between labour efficiency and capital deepening would be.
2. Nominal GDP deflated by the private consumption deflator.
3. Annual hours per employee.
4. Labour efficiency is derived residually from a Cobb-Douglas production function.
5. As measured by the change in the ratio of the GDP deflator to the private consumption deflator.

Source: OECD Secretariat.

Table 7. **Levels of productivity and GDP per head in the EU**

In per cent of 1993 US PPP levels

	Levels of productivity					GDP per capita
	Per hour worked				Per employee	
	1973	1987	1992	1998	1998	1998
Denmark	79	85	85	89	74	78
Belgium	76	102	108	109	97	74
Netherlands	82	98	107	98	73	73
Austria	66	82	88	92	76	71
Ireland	46	66	77	86	84	71
France	74	99	101	102	89	69
Germany	73[1]	91[1]	87	90	77	68
United Kingdom	68	81	79	82	71	67
Finland	59	69	74	82	75	66
Italy	78	96	97	100	90	66
Sweden	78	84	80	84	71	66
Spain	53	79	80	79	78	54
Portugal	42	44	48	50	47	45
Greece	43	55	54	54	57	42
Euro area	71	91	91	94	82	66
Japan	45	60	67	68	69	72
United States	100	100	100	100	100	100

1. West Germany.

Source: OECD Secretariat.

In comparing the European Union with the United States, what stands out is that strong productivity performance in the European Union was partly offset by the stagnation in participation rates, rising unemployment and declining hours, while in the United States the rise in living standards was underpinned by strong gains in participation rates and, over the past two decades, a reduction in unemployment (Table 6). As a result, the United States now benefits from much higher rates of labour force participation and employment, even though the rates were comparable to those observed in the euro area in the 1970s (Table 8). Furthermore, the decomposition across age and genders shows that participation and employment rates of prime-age male workers are basically as high in European Union countries as in the United States. The problem of labour under-utilisation in the euro area is thus concentrated in much lower participation and employment rates of young and old workers of both genders and, to a lesser extent, of prime-age female workers (Figure 25).

Table 8. **Participation and employment rates in the last three decades**[1]

In per cent

	1969-78		1979-88		1989-98	
	Participation rate	Employment rate	Participation rate	Employment rate	Participation rate	Employment rate
Austria	68.9	67.9	66.8	64.5	67.6	63.8
Belgium	61.5[2]	59.1	61.8	54.9	63.0	55.8
Finland	71.9	69.5	76.2	72.3	74.0	65.8
France	67.9	65.5	67.2	61.4	66.9	59.5
Germany	68.6	67.2	67.9	63.5	71.0	65.5
Ireland	64.9	60.7	63.0	54.8	62.9	54.8
Italy	58.5	55.8	59.3	54.6	57.7	51.7
Netherlands	60.1	58.6	57.0	52.7	60.8	57.1
Portugal	65.7	61.6	68.6	62.9	68.9	65.0
Spain	62.4	60.1	59.6	49.7	61.4	49.4
Euro area	64.6[2]	62.4	64.0	58.4	65.1	58.3
Denmark	77.4	74.8	82.1	75.1	81.7	73.8
Greece	56.9	55.4	58.5	54.9	59.6	54.1
Sweden	76.7	75.1	81.2	79.1	78.4	74.0
United Kingdom	73.2	70.7	74.4	67.4	75.7	69.7
United States	66.9	62.9	72.4	67.1	76.8	72.3
Japan	71.1	70.0	72.2	70.4	76.0	73.9

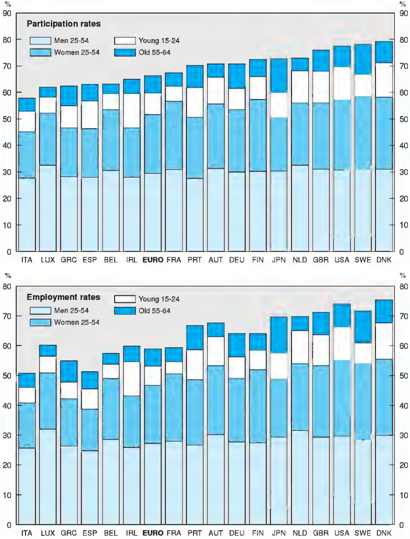
1. Average of annual rates over specified periods.
2. 1970-78.

Source: OECD Secretariat.

The contrasting performance of productivity and labour utilisation in the euro area suggests that gains in productivity may have been partly achieved at the expense of employment. This may have been accentuated by a combination of technical change and relative wage rigidity. Skill-biased technical changes may have led to higher unemployment in Europe because, in contrast to what has happened in countries with high employment rates, the adjustment could not be absorbed by a widening of the wage dispersion between the skilled and unskilled labour force (Roeger and Wijkander, 1999). Part of the overall productivity gains would then stem from the difficulty for the low-skilled unemployed to price themselves into a job, a problem often accentuated by generous benefit schemes which lower the incentives to re-enter the labour market (Mortensen and Pissarides, 1999). This is consistent with the continued increase in the capital intensity of production observed in Europe during the 1990s, which contrasts with the slight decline recorded in the United States over the same period (Table 6). It is also consistent with the observation that the difference in the productivity

Figure 25. **Participation and employment rates by age and gender**

Per cent in 1998



Source: OECD Secretariat.

performance between the European Union and the United States is concentrated in the service sector, since similar productivity gains have been achieved in the manufacturing sector over the past 15 years (Martinez-Mongay, 1999).

Institutions and the transmission of shocks

The evolution of employment rates over time and across countries is shaped by labour and other market institutions that interact among themselves and with shocks to affect macroeconomic performance. The model of wage and price setting behaviour detailed in Annex IV spells out how various features of labour and product markets affect the transmission of exogenous and macroeconomic policy shocks. Various sizeable shocks have indeed buffeted the OECD economies in the past three decades. It has, for instance, been argued that the oil price shocks and slower productivity advances in the 1970s, the increase in the cost of capital in the early 1980s and a shift in labour demand reflecting a decline in labour hoarding in the 1990s may have played a key role in the persistent rise of structural unemployment in continental Europe (Blanchard, 1998*a, b*).[80]

For such shocks to move employment in the short and long run, they must drive a persistent wedge between the real wage paid by employers and the level of productivity. In other words, the importance of their effect depends on if, and for how long, firms are being pushed away from the normal profit condition. Since the magnitude and persistence of deviations of real wages from trend productivity depends to a large extent on the institutional environment, the same shocks may have widely different employment and output implications across countries.

A wedge between the real wage and productivity may come from either aggressive wage bidding or from the resistance of workers to adjust real wages in the face of adverse disturbances. For instance, the productivity-adjusted real wage increased sharply in the mid-1970s in the euro area and Japan and remained at a higher level until the early 1980s, reflecting in part the slow adjustment of real wages to the productivity slowdown. In contrast, it remained essentially flat in the United States, where similar shocks hit the economy (Figure 26). In the euro area, wage moderation in the face of rising unemployment and a period of jobless output growth eventually contributed to gradually pull the productivity-adjusted real wage even below its early 1970s level.

The relatively long time required to adjust the proportions of labour and capital in response to a change in their relative cost is illustrated in Figure 27 (top panel), which plots the average change in real unit labour costs in the 1970s against average employment growth in the 1980s. With the exception of Greece, Portugal and Japan, countries with relatively high growth of real unit labour costs on average in the 1970s have generally suffered from low employment growth in

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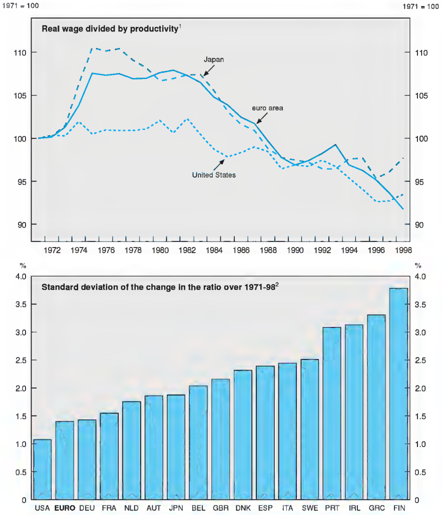
Figure 26. **Ratio of real wage to labour productivity**
Annual data



1. The real wage is measured as the compensation rate of the business sector divided by the GDP deflator. Productivity is measured as real GDP divided by total employment.
2. For Portugal, 1976-98.

Source: OECD Secretariat.

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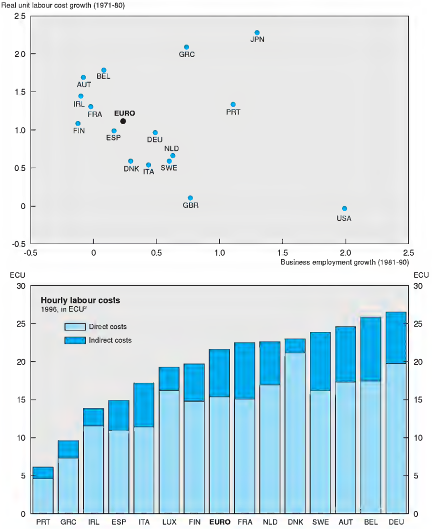
Figure 27. **Employment and real unit labour costs**[1]



1. In per cent. Average between 1971 and 1980 for unit labour costs and between 1981 and 1990 for employment.
2. At current exchange rates.

Source: OECD Secretariat.

the business sector in the following decade. The case of Greece and Portugal can partly be explained by much lower levels of hourly labour costs at the start and hence the room for a catch-up (lower panel).[81] In sum, shocks of similar origin and magnitude may have quite different effects on the level, persistence and variance of unemployment across countries if the transmission mechanism varies significantly, reflecting institutional heterogeneity.

Since the mid-1990s the OECD has provided in-depth analysis of the possible role of specific labour and product market institutions and policies that account for the low level of labour resource utilisation in the European Union. Acknowledging the importance and complexities of the interactions between the institutions and policies, the *Jobs Strategy* has argued for a comprehensive set of reforms encompassing the labour market, the education system and the regulatory framework concerning product markets. At the same time it has stressed that macroeconomic policies should be set to encourage growth in a non-inflationary environment and that this would have to be underpinned by good structural policies. Since the 1997 Luxembourg and 1998 Cardiff summits, European Union countries have started their own peer review process, which resembles the OECD's approach in many respects.[82]

Annex V provides an overview of how labour and product market institutions and policies can influence structural unemployment both directly via their effects on labour costs and work incentives as well as indirectly via their effects on the speed at which wages, prices and quantities (employment and output) adjust to changes in economic conditions. Concerning the labour market, the OECD's work has analysed a wide variety of policy measures in-depth. Most prominently, it has underscored the need to increase the flexibility of working time and of wage and labour costs as well as to reform employment security provisions in order to provide a wider margin for adjustment. It has also suggested that unemployment and related benefit systems and their interaction with the tax system should be reformed in many countries to lower disincentives to take up work (OECD, 1997*a*). Finally, it has emphasised the need to strengthen active labour market policies and their effectiveness. Table 9 gives summary indicators for various major policy areas. The indicators suggest that labour market regulations are typically more stringent than in the United States, minimum wages are usually higher relative to average earnings and unemployment benefits more generous.

In some cases – for instance, high minimum wages and generous unemployment benefits – labour market policies may raise structural unemployment directly. In other cases, they raise the sensitivity of unemployment to certain types of shocks by reducing the speed of real wage adjustment, as illustrated above. This suggests that policies and institutions interact in a way that makes it difficult to evaluate with precision their individual contribution to labour market performance.[83] On the other hand, many of the interactions among labour market

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Table 9. Indicators of labour market regulations and institutions

	Unemployment rate	Employment protection legislation (1998)						Summary measure of centralisation/co-ordination (1998)			Net replacement rates (1997)[3]		Active labour market policies (1997)[4]		Minimum wage/average earnings[5] (1997)	
		Overall index[1]		Permanent contract[2]		Temporary contract[2]										
	1997-99 average	Index	Rank	Index	Rank	Index	Rank	Cent	Coor	Cent/coor	Index	Rank	Index	Rank	Index	Rank
Spain	18.4	3.2	4	2.8	4	3.7	2	2	2	2	74	4	0.56	5	32.4	6
Italy	12.2	3.3	3	3.0	3	3.6	3	3	3	3	54	11	1.08	7	..	..
France	11.9	3.1	5	2.5	6	3.7	2	2	2	2	74	4	1.37	10	57.4	1
Finland	11.6	2.1	8	2.3	7	1.9	9	2	2	2	84	2	1.57	11	..	..
Greece	9.5	3.5	2	2.6	5	4.5	1	..	..	..	46	12	0.35	3	51.4	2
Germany	9.4	2.8	6	3.0	3	2.5	6	2	3	3	74	4	1.25	8	..	..
Belgium	8.8	2.1	8	1.6	9	2.6	5	2	2	2	60	9	1.29	9	50.4	3
Sweden	8.5	2.4	7	3.0	3	1.8	10	2	1	2	84	2	2.09	14	..	..
Ireland	8.0	1.0	10	1.7	8	0.3	13	2	3	3	62	7	1.66	13	..	..
United Kingdom	6.2	0.5	11	0.7	10	0.3	13	1	1	1	64	6	..	..	..	..
Portugal	5.5	3.7	1	4.3	1	3.2	4	2	2	2	77	3	0.87	6	32.4	6
Denmark	5.2	1.5	9	1.7	8	1.2	12	2	2	2	77	3	1.80	13	..	..
Austria	4.4	2.4	7	2.8	4	2.0	8	2	3	3	73	5	0.45	4	..	..
Netherlands	4.4	2.4	7	3.2	2	1.5	11	2	3	3	85	1	1.65	12	49.4	4
Euro area	11.7	2.9	..	2.8	..	3.0	..	2	2-3	2-3	70	..	1.20	..	..	..
United States	4.6	0.2	12	0.1	11	0.3	14	1	1	1	61	8	0.18	2	38.1	5
Japan	4.1	2.6	6	3.0	3	2.3	7	1	3	1	56	10	0.10	1	30.8	7

1. Average of the indices for permanent and temporary contracts.
2. For permanent contracts, the main aspects of legislation covered are those related to regular procedural inconveniences, notice and severance pay and difficulty of dismissal. For temporary workers, the index is a function of the number and tightness of the restrictions imposed on the use of fixed-term contracts (maximum number of successive contracts allowed or maximum cumulated duration) and temporary work agencies (type of work authorised).
3. For a married couple with two children
4. In per cent of GDP. 1996 for Italy and Ireland.
5. Mean hourly pay in manufacturing for Greece and Portugal and full time median earnings including pay and bonuses for all other countries. Several EU countries do not have statutory minimum wages but have wage floors set by collective agreements.

Source: Nicoletti, Scarpetta and Boylaud (1999) and OECD Secretariat.

institutions have received empirical support.[84] For instance, various studies have found evidence that the influence of employment protection legislation and the tax wedge on unemployment is magnified in countries where wage negotiations are unco-ordinated and take place at the industry level (*i.e.* are neither centralised nor fully decentralised).[85] There is also some evidence that the adverse influence of unemployment benefits on structural unemployment is lower in countries that spend more on active labour market policies, but provided that such policies are well targeted (Martin, 2000). Considering also that wage negotiations in several European Union countries are neither decentralised as in the United States or United Kingdom, nor highly co-ordinated as in Japan, it is likely that unemployment benefits and the tax wedge, which are significantly higher on average in the euro area, have had a proportionately larger effect on structural unemployment in the latter.

However, it has been argued that rigidities in labour markets alone are not sufficient to explain the difference in employment growth between the United States and euro area countries and that product market regulations may also play a key role (Annex V).[86] In particular, product market constraints on firm start-ups and innovation may constitute an important source of weak labour market performance, especially if a firm's wage bargaining position is undermined by a low price elasticity of its product demand.[87] More generally, the overall benefits of adopting policies to raise labour market flexibility could be offset by ineffective competition policies or by a regulatory environment that is detrimental to competition.[88] In the context of the European Union, the single market legislation is an important element of the policy framework to enhance European Union-wide product market competition (Box 9). However, to be successful, this programme requires the full co-operation of Member States with respect to implementation and enforcement of the rules. After all, although the European Union has gained a significant amount of regulatory power, product market regulation remains to a large extent a national prerogative.

It is not easy to pin down empirically the effect of product market regulations on overall performance, partly reflecting the difficulty of establishing synthetic indicators of the wide variety of regulatory regimes and the relatively long lags before regulatory reforms affect performance. It is even more difficult to evaluate the interactions between product and labour market policies and their combined effect on overall performance. This is partly due to the fact that countries with stringent labour market policies also have a tendency to regulate their product market more heavily, generating a high degree of multicollinearity. On the other hand, there are many sectoral studies underlining the beneficial effects of policy reforms, especially on network industries, but also on distribution systems or the agricultural sector. Moreover, the Commission has undertaken in-depth evaluations of the effects of the single market.[89] The OECD has recently developed summary indicators of product market regulations (Figure 28 and

Box 9. EU policies to enhance competition in the product market

The 1958 Rome Treaty gave the Community major competencies in regulating product markets. Within these, the estahlishment of the single market stands out as the deepest regional integration scheme world-wide. The single market is complemented by the common commercial and competition policy. In most of these areas, the Community acts by qualified majority voting, which makes decision-making less cumbersome than in others, where unanimity is required.

The single market. A first major step towards internal liberalisation was achieved with the Customs Union in 1968 that abolished tariffs within the Union. However, non-tariff barriers remained and restrictions concerning services, which should also have been abolished, were largely excluded form the liberalisation process. A new impetus to implement the four freedoms (free movement of goods, services, capital and people) came with the 1987 Single Act, which contained some 300 legislative proposals. This provided for critical progress in the harmonisation or mutual recognition of standards, in freeing up various sectors (for instance, transport, banking and insurance), in completely liberalising capital flows and in the mutual recognition of professions. Some reforms have not yet been brought to their conclusion, however. For instance, customer choice is still limited in the electricity and gas markets, while deregulation of postal services and railway transport has not started in earnest. Moreover, the Common Agricultural Policy, which is outside the single market initiative, imposes a heavy burden on consumers and taxpayers.

The legal framework is now largely in place. The percentage of directives not yet implemented has fallen to 12 per cent from 35 per cent in June 1997. With the completion of the single market, the Community's attention has turned to its enforcement, to the monitoring of market developments to identify problem areas and to reaping synergies with other policy areas. With the 1997 Action Plan for the Single Market, the Commission stepped up efforts to monitor progress, notably with the Single Market Scoreboard, an annual business survey and the Dialogue with Citizens and Business. It also submitted a progress report on the functioning of product and capital markets to the Council, which forms part of the Cardiff process. Sectoral policy frameworks have also been developed, for instance, for public procurement and financial services. While the single market agenda will he developed in various directions in the future (e-commerce, tax issues), the Commission also aims at a better integration between EU-wide and national policies, hy further developing the examination of member countries' product market policies in the Internal Market Council into a peer review exercise.

The common commercial policy. Since its creation, the European Union has pursued trade liberalisation by widening the Community, by striking regional trade agreements, and by participating actively in multilateral trade rounds. The Community has exclusive competence for trade in goods and in fields in which it has internal market competencies. Since the 1997 Amsterdam Treaty, it also has the competence to negotiate agreements on services and intellectual property rights. Reflecting the commitments made during the various multilateral trade liberalisation rounds, tariff barriers have fallen considerably across a wide range of goods to levels which are probably more a nuisance than a barrier to trade. However, tariffs on textiles and apparel have remained high and the high level of agricultural protection has not declined much, despite efforts to reform the Common Agricultural Policy. Moreover, the European

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Union is a heavy user of anti-dumping actions, second only to the United States. The Union has established nearly 100 regional trade agreements, with another 40 countries receiving unilateral concessions under the General System of Preferences. The trade agreements provide for different levels of trade liberalisation, from deep integration in Europe down to non-reciprocal agreements with many African, Caribbean and Pacific countries.

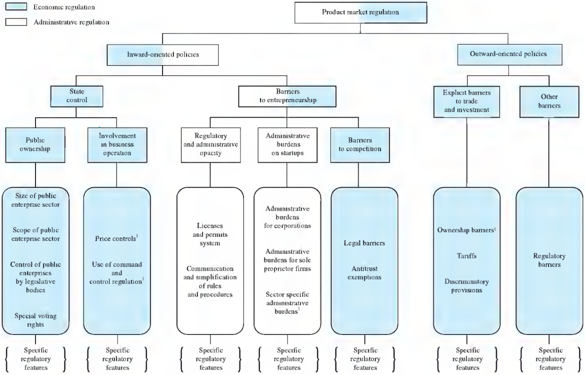
Trade barriers in Europe will shrink further. Negotiations for accession are underway or about to start with 12 countries (Annex II). The European Union has also continued to work on bilateral free trade arrangements, with an agreement with Mexico just finalised and one close to conclusion with South Africa. Concerning the multilateral agenda, it has played a major role in the Post-Uruguay Round agreements on information technology and basic telecommunications. However, the European Union is not in favour of a sectoral liberalisation approach, but prefers a global approach, which could make it easier for all participants in trade negotiations to share in the mutual benefits from comprehensive liberalisation. It also supports negotiations in the WTO on multilateral rules for international investment and competition policy. As in the past, a major stumbling block to get another round of liberalisation underway is the issue of agricultural trade.

Competition policy. Community competition rules apply to two broad areas: state intervention (largely subsidies) and enterprise conduct. Enterprise conduct that could distort intra-EC trade includes restrictive agreements and the abuse of a dominant position. Moreover, in 1989, the EC Merger Control regulation was adopted. The Commission vets mergers with a Community dimension, while the others remain within the national jurisdiction. In all these areas, the number of cases handled by the Commission has risen quickly over the last ten years, and reform proposals have been made to streamline procedures and raise the effectiveness of the competition policy framework (Annex III).

Subsidies that fall under Community policy are those that distort intra-European Union competition. Member countries have to notify the Commission of subsidies, with the Commission deciding whether Community control applies and whether a derogation should be granted. Subsidies to specific sectors and enterprises are usually not allowed, but derogations can be granted in the case of regional problems, for important projects of Community interest and the promotion of certain economic activities (for instance, R&D or pollution control). While there have been efforts to improve transparency and enforce discipline, the degree of subsidisation has remained much higher in the European Union than in the United States or Japan. This can be partly explained by the fact that Community control over many subsidy schemes to the agriculture, fishing, coal and railway sectors is limited, and that a higher degree of subsidisation is allowed to the large part of the European Union area thought to face regional problems.

Table 10).[90] They measure regulatory intensity, rather than the costs and benefits of government interventions in product markets. According to the overall indicator, the regulatory intensity among European Union countries is highest in Greece, Italy and France and lowest in the United Kingdom, Ireland and the

Figure 28. **Taxonomy of economic and administrative regulations**


Economic regulation
Administrative regulation
Product market regulation
Inward-oriented policies
Outward-oriented policies
State control
Barriers to entrepreneurship
Explicit barriers to trade and investment
Other barriers
Public ownership
Involvement in business operation
Regulatory and administrative opacity
Administrative burdens on startups
Barriers to competition
Size of public enterprise sector
Scope of public enterprise sector
Control of public enterprises by legislative bodies
Special voting rights
Price controls[1]
Use of command and control regulation[1]
Licenses and permits system
Communication and simplification of rules and procedures
Administrative burdens for corporations
Administrative burdens for sole proprietor firms
Sector specific administrative burdens[1]
Legal barriers
Antitrust exemptions
Ownership barriers[1]
Tariffs
Discriminatory provisions
Regulatory barriers
Specific regulatory features
Specific regulatory features
Specific regulatory features
Specific regulatory features
Specific regulatory features
Specific regulatory features
Specific regulatory features

1. Includes sector specific information on road freight, air transport, retail distribution and some telecommunications services.
Source: Nicoletti, Scarpetta and Boylaud (1999).

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Table 10. **Indicators of product market regulation**

	Real GDP per capita growth	Product market regulation (PMR) in 1998										Ratio public/ total consumption (1998)		Intensity of intra-industry trade (1997)[2]	
		Overall indicator of PMR		Inward-oriented policies						Barriers to trade and investment					
				Overall indicators[1]		State control		Barriers to entrepreneurship							
	1980-99 average	Index	Rank	Index	Rank	Index	Rank	Index	Rank	Index	Rank	Per cent	Rank	Per cent	Rank
Sweden	0.69	1.4	8	1.7	8	1.5	9	1.8	6	0.8	5	34.4	1	78.3	8
France	1.24	2.1	3	2.7	2	2.6	4	2.7	1	1.0	3	24.3	7	90.0	16
Greece	1.25	2.2	2	2.7	2	3.9	1	1.7	7	1.3	1	16.3	15	38.0	1
Netherlands	1.54	1.4	8	1.8	6	2.3	6	1.4	10	0.5	8	20.5	10	83.2	11
Germany	1.55	1.4	8	1.9	6	1.8	8	2.1	4	0.5	8	25.9	4	82.0	10
Belgium	1.76	1.9	4	2.7	2	2.8	2	2.6	2	0.6	7	20.0	12	89.7	15
Austria	1.78	1.4	8	1.8	7	2.1	7	1.6	8	0.5	7	25.5	5	85.1	13
Italy	1.83	2.3	1	3.3	1	3.9	1	2.7	1	0.5	8	21.8	8	71.2	6
Denmark	1.85	1.4	8	1.9	6	2.5	5	1.3	11	0.5	8	34.0	2	75.9	7
United Kingdom	1.96	0.5	11	0.5	10	0.6	12	0.5	13	0.4	9	24.7	6	88.3	14
Spain	2.15	1.6	6	2.2	4	2.6	4	1.8	6	0.7	6	19.4	13	79.2	9
Finland	2.20	1.7	5	2.3	3	2.7	3	1.9	5	0.6	7	28.8	3	64.8	5
Portugal	2.85	1.7	5	2.1	5	2.8	2	1.5	9	1.1	2	19.2	14	61.7	3
Ireland	4.21	0.8	10	1.1	9	0.9	11	1.2	12	0.4	9	21.5	9	64.5	4
Euro area	1.61	1.8	..	2.4	..	2.6	..	2.3	..	0.7	..	23.7	..	88.5	..
United States	1.73	1.0	9	1.1	9	0.9	11	1.3	11	0.9	4	20.2	11	83.8	12
Japan	1.89	1.5	7	1.8	7	1.3	10	2.3	3	1.0	3	14.0	16	54.2	2

1. Average of the indices for state control and barriers to entrepreneurship.
2. Intra-industry trade for industry i is the value of trade remaining in that industry after the subtraction of the absolute value of industry i OECD net exports $|X_i - M_i|$ from the total value of trade in industry i $(X_i + M_i)$. For comparison across countries and industries, the measures are expressed as a percentage of total value of trade in industry i $(X_i + M_i)$. Trade flows are measured at the three digit level. Summation over all industries provides an aggregate measure of intra-OECD intra-industry trade as follows: $\{(\Sigma (X_i + M_i) - \Sigma |X_i - M_i|)/\Sigma (X_i + M_i)\} * 100$

Source: Nicoletti, Scarpetta and Boylaud (1999) and OECD Secretariat.

Netherlands.[91] All European Union countries, except the United Kingdom and Ireland, have a more stringent regulatory environment than the United States, although for most of them, regulation is no more stringent than in Japan.

Overall, the scope for improving labour market performance in the euro area remains large, especially with respect to the participation and employment rates of young, old and prime-age female workers. Indeed, the relatively high employment intensity of the current recovery documented in Chapter I could be taken as a sign that previous labour market reforms, in particular those aimed at lowering the labour cost of less productive workers, may have begun to pay off. Moreover, countries such as Denmark, Ireland, the Netherlands and the United Kingdom that have closely followed the direction prescribed by the *Jobs Strategy* have already reaped considerable gains and now enjoy relatively low unemployment. Adding to this the evidence that deregulation in utilities and the implementation of the single market are generating substantial benefits in terms of lower prices and mark-ups, there is potential for a sustained period of strong output growth at low inflation with a sizeable improvement in labour resource utilisation. To reap these gains structural reforms would need to be stepped up to ensure a better performance over the medium term.

Macro policies in the presence of market rigidities

The previous section (and Annex V) examined some of the labour and product market policies that can slow the adjustment of real wages and other relative prices and, hence, generate larger fluctuations in quantities in response to shocks. It has been suggested that institutional arrangements and structural policies can also raise (un-)employment persistence, implying longer cycles in response to shocks of similar magnitude, with an increased risk of having temporary shocks eventually affecting structural unemployment and potential output (hysteresis effects). This section analyses the effects of these structural rigidities on the capacity of macroeconomic policy to achieve monetary and fiscal objectives at minimal cost in terms of output and employment. It begins with a review of the empirical evidence on market rigidities, and is followed by a discussion of their implications on the output and inflation trade-offs in the context of both unified and segmented markets.

Evidence on structural rigidities

The empirical evidence on slow wage adjustment and (un-)employment persistence based on alternative empirical approaches is reviewed in Box 10. In general, empirical studies corroborate the view that real wage resistance has generally been more prevalent in the euro area than in the United States. Not

Box 10. Empirical evidence on wage adjustment and unemployment persistence

The traditional empirical approach taken to compare internationally the degree of labour market rigidities consists in estimating the parameters of structural wage-setting equations. Results from estimated wage equations for euro area Member States are presented and discussed in the main text. One of the major limitations of this approach relates to the difficulty in identifying the wage-setting function separately from the price-setting function on the basis of a single-equation method given that in the context of a wage bargaining framework, the real wage is essentially related to the same set of explanatory variables in both relations (see Annex IV).

To circumvent this problem, Viñals and Jimeno (1996) have taken an approach based on vector autoregression (VAR) jointly estimating a real wage and a labour demand equation to extract measures of real wage rigidities.[1] Their results show the United States as having more rigid real wages than Belgium, Germany and the Nordic countries, but more flexible wages than in other European countries. Using also a VAR methodology applied to Italian data, Chiarini and Piselli (1997) obtain a long-run real wage elasticity to unemployment that is significantly lower than that typically obtained from single-equation estimates. They also found Italian wages to adjust very sluggishly towards long-run equilibrium.

Besides the identification problem, the approach based on the estimation of a single aggregate equation has been criticised for producing parameter estimates that suffer from potentially large aggregation biases. Addressing this issue, Blanchflower and Oswald (1995) combined time-series and panel data and found significant evidence of a negative relationship between the level of real wages paid to individual workers in a specific region and the local level of unemployment, with similar estimates of real wage flexibility across countries. In addition, they found no evidence of sluggish real wage adjustment at the micro level, implying that the slow wage dynamics observed at the macro level could result from aggregation biases and inadequate specification. However, it appears that at least in the case of the United States (Blanchard and Katz, 1997) and Italy (Lucifora and Origo, 1998), the finding of rapid wage adjustment at the micro level is overturned when a measure of individual earnings that better controls for changes in hours worked is used instead of annual earnings.

The higher persistence of unemployment in Europe relative to the United States both at the regional and national levels has been well documented in various studies assessing the role of alternative adjustment mechanisms to compensate for the loss of the exchange rate as an asymmetric shock absorber.[2] Using a VAR model of regional employment and participation rates, Obstfeld and Peri (1998) found labour market adjustment to be much slower in Germany and Italy compared with the results obtained earlier by Blanchard and Katz (1992) for the United States, based on the same methodology. Not only did the results from these studies find higher unemployment persistence in Europe, but they also found that while labour mobility played an important role in the adjustment process in the United States, adverse labour demand shocks were generally absorbed in Europe by higher unemployment rates and, eventually, falling participation rates. More recently, Balakrishnan and Michelacci (1998) have used the VAR methodology to investigate the observed differences in the

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unemployment dynamics between Europe and the United States. They found that these differences have more to do with the different speeds of adjustment to similar aggregate shocks (slower in Europe) than with differences in the nature and origin of the shocks.

Finally, based on estimates of reduced-form unemployment equations, Scarpetta (1996) finds the coefficient on lagged unemployment to be significantly lower for the United States than for any EU country. Furthermore, using pooled estimates he finds cross-country differences in the degree of unemployment persistence to be significantly affected by differences in labour market institutions, in particular unemployment benefits, employment protection legislation and the degree of centralisation of wage negotiations.

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1. Their real wage rigidity measure reflects a combination of the initial response of unemployment to a wage-push shock and the mean adjustment lag to the same shock.
2. See in particular the previous EMU study for a comprehensive review of labour market policies in the euro area.

only have changes in the tax wedge had a significant and persistent impact on labour costs in the former but real wages have also tended to adjust more sluggishly to productivity than in the United States. There is also fairly robust evidence that unemployment is more persistent in the euro area and that this largely reflects a slower adjustment to similar types of shocks.

On the other hand, the view that real wages are less sensitive to unemployment in the euro area Member States, and hence less flexible, is more difficult to substantiate, except perhaps over short horizons (which essentially reflects the slow adjustment).[92] As mentioned in the previous section, highly centralised or co-ordinated wage bargaining in some countries (Germany, Austria, the Netherlands and Italy) and the use of incomes policies in others may have contributed to raising the sensitivity of aggregate real wages to unemployment, especially in the 1990s. In such cases, however, high aggregate wage flexibility may have been achieved at the cost of low relative wage flexibility across regions and sectors. Higher relative wage rigidities, combined with low labour mobility, may then explain the persistence in regional differences in the unemployment rate in many euro area countries.

Many of these results are supported by structural wage equations, which give direct estimates of two indicators of rigidities (Table 11). One is the sensitivity of real wages to unemployment (degree of real wage *flexibility*) and the other is the speed of real wage adjustment relative to productivity which, combined with the impact of a change in the tax wedge, provides an indication of the degree of real wage *resistance*. The equations are specified as a simplified version of

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Table 11. **System estimates of wage equation[1] (panel A)**

Estimates of parameters associated with determinants of real wages[2]

	Change in				Speed of adjustment/ Error correction	Long term elasticities	
	Unemployment rate	Inflation[3]	Wedge[4]	Productivity		Unemployment rate	Productivity
Germany							
National unemployment rate	–0.49**	..	0.17*	0.30***	–0.16***	–1.19*	0.81***
Euro unemployment rate	–0.33	..	0.15*	0.24***	–0.14***	–0.88	0.71**
France							
National unemployment rate	–0.31	–0.37***	0.21***	0.20**	–0.10***	–2.60***	1.05***
Euro unemployment rate	–0.45**	–0.39***	0.22***	0.20**	–0.09***	–2.89***	1.04***
Italy							
National unemployment rate	–0.93***	–0.52***	0.41***	0.53***	–0.24***	–1.17**	0.54***
Euro unemployment rate	–1.32***	–0.62***	0.49***	0.48***	–0.19***	–1.71***	0.57***
Austria							
National unemployment rate	–0.84	..	0.47	0.20***	–0.19*	0.50	0.79
Euro unemployment rate	–1.68***	..	1.08**	0.21***	–0.21***	–0.55	0.94**
Belgium							
National unemployment rate	0.10	–0.17*	0.36**	0.34***	–0.02	–12.03***	1.07
Euro unemployment rate	–0.36*	–0.20**	0.42***	0.41***	–0.08***	–5.84***	1.49***
Netherlands							
National unemployment rate	–0.14	–0.82***	..	..	–0.11***	–0.55**	0.65***
Euro unemployment rate	–0.18	–0.80***	..	..	–0.15***	–1.21***	0.89***
Portugal							
National unemployment rate	–0.42	–0.51***	..	–0.13	–0.05*	–7.37**	–0.03
Euro unemployment rate	–0.97*	–0.56***	..	–0.19***	–0.09***	–7.20***	1.65***
Spain							
National unemployment rate	0.24	–0.22*	0.31	0.51***	–0.09***	–1.78***	0.88***
Euro unemployment rate	..	–0.23**	0.34*	0.51***	–0.07***	–7.21***	1.26***

Table 11. **System estimates of wage equation[1] (panel B)**

Estimates of parameters associated with determinants of real wages[2]

	Change in				Speed of adjustment/ Error correction[5]	Long term elasticities	
	Unemployment rate	Inflation[3]	Wedge[4]	Productivity		Unemployment rate[5]	Productivity[5]
Fast adjusting countries							
Germany	–0.48**	..	0.17*	0.26***	**–0.18*****	**–1.19*****	**0.88*****
Netherlands	–0.15	–0.77***	..	..	**–0.18*****	**–1.19*****	**0.88*****
Austria	–1.65***	..	1.13***	0.21***	**–0.18*****	–0.50*	**0.88*****
Italy	–1.26***	–0.60***	0.48***	0.46***	**–0.18*****	**–1.19*****	0.45***
Slow adjusting countries							
France	–0.48**	–0.39***	0.22***	0.22**	**–0.08*****	–3.5***	**1.15*****
Spain	..	–0.26**	0.33*	0.49***	**–0.08*****	**–6.23*****	**1.15*****
Belgium	–0.38**	–0.21**	0.40***	0.41***	**–0.08*****	**–6.23*****	**1.5*****
Portugal	–1.01*	–0.53***	..	–0.17***	**–0.08*****	**–6.23*****	**1.5*****
Euro area							
GDP weighted average of coefficients	–0.70	–0.46	0.31	0.32	–0.14	–2.56	0.92
Estimate from aggregate data	–0.19	–0.07	0.16*	0.03	–0.11***	–1.83***	0.72***
United States	–0.22*	–0.36***	..	0.23**	–0.24***	..	0.72***

Note: *** Statistically significant at 1 per cent, ** 5 per cent and * 10 per cent level.

1. The equation is specified in error-correction form and relates the growth rate of the real wage rate (deflated by the GDP deflator) per employee (including social security contributions) in the business sector to the growth rate of labour productivity, the change in unemployment, the change in the inflation rate, the change in the tax wedge and the error-correction term which is the difference between the log-level of real compensation, the log-level of labour productivity and the rate of unemployment. All the variables are introduced with one lag except the change in inflation (contemporaneous) and the error correction term (two lags).
2. The estimates are obtained from a sample of semi-annual data covering the period 1969-98 for most countries. For the euro area aggregated data are available from 1971. A dummy variable is introduced in the equation for Germany and the euro area to capture the break due to German unification.
3. The parameter associated with the change in inflation can be interpreted as an indication of the degree of nominal wage rigidity. The coefficient value is bounded between zero and minus one, with a value approaching the latter indicating highly rigid nominal wage adjustment.
4. The wedge is constructed as the difference between the real wage paid by producers, including payroll taxes and the real wage received by workers net of income taxes and social contributions. A higher coefficient means that more of the increase in taxes or import prices is borne by producers. For Austria, Belgium and Spain, the wedge was not significant and the change in payroll taxes (social security contributions) has been used instead.
5. The coefficients in bold are imposed.

Source: OECD Secretariat.

equation 2-c in Annex IV.[93] For comparison, results for the United States are included, as well as two versions for the euro area, one constructed from the weighted-average of the country-specific coefficients and the other obtained from the direct estimation on the basis of euro area aggregate data. The significant differences between the two sets of results for the euro area could reflect important estimation biases arising form aggregating data over countries with heterogeneous labour market characteristics and wage setting behaviour (Box 11).

Box 11. Could aggregation be misleading?

Euro area-wide modelling is still in its infancy, but financial institutions, research institutes and academics have started to estimate area-wide relationships relevant for policy making. In addition, there is already a considerable body of literature on aggregate money demand in the euro area. This raises an important issue of empirical analysis: does aggregation and, in this specific case, the focus on euro area-wide relationships make sense? Significant behavioural differences across countries could have strong policy implications, because it could matter which policies affect which country most, or developments in one region could have disproportionate effects on aggregate developments. As has long been known, aggregation can influence parameter estimates, empirical evaluation and attendant policy conclusions (Theil, 1954).

Aggregation would not pose a problem if all countries would behave as a single "representative country" – like the representative consumer or producer in theoretical macroeconomic models – and if micro relationships are correctly specified. In this case, a euro area-wide relationship will perform in the same way as the sum of the country-specific relationships and compositional issues can be ignored. However, an aggregation bias is only absent in special cases for linear and static regression analysis: first, if all country-specific relationships have identical parameters, aggregation will not lead to an information loss, and, second, if the dependent variables remain in the same proportion over the whole sample period. Hence, a valid area-wide inference has to capture heterogeneity in marginal responses as well as relevant distributional or structural changes across member countries. The issues of heterogeneity and interpretation are much more complicated for non-linear and dynamic models.

The average effect of some exogenous variables on a dependent variable for groups of countries can be estimated in various ways including (Pesaran and Smith, 1995): *a)* separate equations are estimated and the coefficients are averaged; *b)* pooled regressions are estimated which impose a common slope and allow for fixed and random intercepts; *c)* the data are averaged over the countries and aggregate time-series regressions are estimated; and *d)* data are averaged over time and cross-section regressions are estimated on country means. Pesaran and Smith find (in the case of labour demand for British industries) that the non-dynamic cross-section regressions yield consistent estimates of average long-run coefficients as compared to the benchmark case of averaging coefficients of separate equations. The same is true for the cointegrating regression for aggregate time series, which also contains no

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lagged dependent variables. On the other hand, dynamic models (pooled regressions and averaging over industries) can lead to substantial biases because the regressors are positively serially correlated: this tends to raise long-run elasticities and lowers adjustment speeds.

Evidence from estimated wage equations shows tbat important differences emerge between some of these methods when countries with heterogeneous labour markets are aggregated. In Table 11 (panel B), two sets of estimates are reported for the euro area, one based on averaging coefficients from pooled regressions with common parameter restrictions imposed on some variables (mixture of methods a and b) and the other based on euro area-wide aggregate data (method c). As the results show, the estimation over aggregate data leads to smaller coefficients for all the variables, including the long-run elasticities, which is somewhat counter-intuitive. Moreover, except for the speed of adjustment, the differences in the parameter values obtained with tbe two methods are substantial, especially in tbe case of the regressors entered in first-differences and which capture the short-run dynamics.[1] Hence, the evaluation of area-wide relationships should proceed carefully, because the aggregation bias could be large and affect parameter estimates significantly as well as attendant conclusions and policy implications.

However, aggregation may also improve the quality of the results, namely when micro equations are not well specified (Grunfeld and Griliches, 1960). In this case the residuals of the micro equations will have a larger disturbance than the "true" micro disturbance. Misspecification can arise when country-specific equations depend on area-wide developments. For instance, if currency substitution is important in a closely integrated area, national money demand functions will depend on foreign variables. Those may be hard to identify or highly correlated with the domestic variables, so that it is difficult to include them in national regressions. An area-wide money demand function overcomes the misspecification as it internalises the spillover effects. Wesche (1996) and Monticelli and Papi (1996) find that for money demand functions of groups of European Union countries, the aggregation bias is small in comparison with the offsetting specification bias, vindicating the use of aggregate money demand functions.

In sum, while aggregation is necessary to form a euro area-wide view of economic developments, it should be borne in mind that *a)* cross-country variation matters and biases can be evaluated; *b)* area-wide influences on country-specific variables are likely to be small (except, for instance, for currency substitution in money demand functions); *c)* institutional and policy differences are much larger in the European Union than in federations, which probably raises the aggregation bias as against the specification bias. On the other hand, area-wide aggregate relationships may internalise the fact that microstructures may be more similar between individual regions or federal states across countries than within countries. For instance, with respect to micro-relationships the north of Italy may be closer to neighbouring countries than to the south of Italy. A similar possibility could exist for instance for the northwest of Belgium, which may be closer to the Netherlands than to the southeast of the country. This could diminish the aggregation bias as against the specification bias.

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1. Similar empirical results for other areas of research are presented in Barker and Pesaran (1990) and Stoker (1993).

Overall, the results confirm that real wages adjust to trend productivity more rapidly in the United States than in European countries.[94] However, the latter group is not homogeneous and can be split into relatively fast-adjusting countries (Germany, Italy, Austria and the Netherlands) and relatively slow-adjusting countries (France, Spain, Belgium, Portugal).[95] The difference in the speed of adjustment between the United States and the first group of euro area countries is not that large compared to the difference with the second group. Furthermore, either the wedge between the real labour cost to the employer and the take-home pay by the employee or one of its major components, the payroll tax, has had a significant temporary influence on labour costs in all euro area countries (except the Netherlands), but not in the United States.[96] Taken together, these two results can be interpreted as evidence of stronger real wage resistance in Europe.

While real wages tend to respond to unemployment pressures more slowly in the euro area, the long-term response generally turns out to be stronger than in the United States. In fact, taken at face value, the absence of a significant effect of the unemployment level in the United States equation implies that a permanent change in the latter would only have a temporary effect on the level of real wages adjusted for productivity. In contrast, the results point to a strong sensitivity of wages to unemployment in the long run in the euro area, especially in those countries where the adjustment takes longest to complete.

Output-inflation trade-offs in a single market

At the aggregate level, one of the implications of slower real wage adjustment is to raise the so-called sacrifice ratio, that is the cost in terms of cumulated output loss per unit of disinflation, following an adverse relative price shock. However, the sacrifice ratio is not only a function of real rigidities but also depends on factors influencing the degree of nominal rigidities such as price inertia, inflation expectations and credibility of monetary policy, which can be difficult to quantify. As a result, cross-country differences in the speed of real wage adjustment do not necessarily imply significant differences in sacrifice ratios.[97]

Nevertheless, the higher sensitivity of structural unemployment to certain types of shocks in the euro area increases further the uncertainty surrounding the estimates of excess demand or supply pressures based on the observed cyclical fluctuations in unemployment. Furthermore, the persistence of unemployment in the euro area puts more or less severe limits on the speed at which macroeconomic policies can be used to reduce it towards its long-run equilibrium in a period of disinflation, implying a protracted period of sub-potential output growth and unemployment above the rate that stabilises inflation (NAIRU). And

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the longer actual unemployment remains above the structural rate, the higher is the risk that the gap between the two is partly closed via an increase in the latter rather than a full decline in the former, a phenomenon referred to as hysteresis.

Experience with disinflation in the 1980s suggests that countries which recorded larger decreases in inflation or longer disinflation spells also faced larger increases in the NAIRU, which supports the hysteresis view of unemployment adjustment (Ball, 1997). Among the various factors contributing to this phenomenon, the duration of unemployment benefits played a significant role in magnifying the effect of tight policies. A lengthy coverage period can both reinforce insider-outsider mechanisms and lead to a loss of human capital, two factors at the heart of hysteresis theories.[98] Moreover, by pushing up the NAIRU, the generosity of unemployment benefits contributed to raise government spending on transfers, creating a vicious circle of higher public deficit and hence tax pressure and lower employment growth down the road, at least in countries where taxes have a persistent impact on labour costs. Ultimately, the need to control public sector deficits led to a largely pro-cyclical fiscal policy (Buti *et al.*, 1998).

In principle, the corollary to costly disinflation is that macro policies could be used effectively to raise output and lower unemployment with smaller inflation consequences so that over time the macroeconomic costs and benefits of market rigidities cancel out. This depends to a large extent on whether the relationship between inflation and the output or unemployment gap is symmetric in periods of excess demand and excess supply. Empirical evidence increasingly suggests that excess demand gaps are more inflationary than excess supply gaps are disinflationary (asymmetry) and that the cost of disinflation tends to rise significantly the closer inflation is to zero (non-linearity).[99] This empirical evidence is reinforced by evidence from a number of episodes where attempts to stimulate the economy with loose fiscal and monetary policies, without the support of sound structural policies, have ended up in higher budget and current account deficits and higher inflation, with little durable effect on output and employment.

In any event, the broad recognition that in the long run unemployment and production levels depend on structural factors and are independent from monetary policy is reflected in the fact that the pursuit of price stability has become the overriding objective of most OECD central banks, including the ECB. However, while it is not possible for monetary policy to permanently raise the level of output by tolerating a higher inflation rate, a trade-off may still exist in the long run between the volatility of the two variables (Taylor, 1994). Such a long-run trade-off between the variance of inflation and the variance of the output gap (or growth rate) arises from sectoral or aggregate price shocks which cause a change in the inflation rate, independently from the degree of excess demand prevailing on product and labour markets. The more vulnerable an economy is to price

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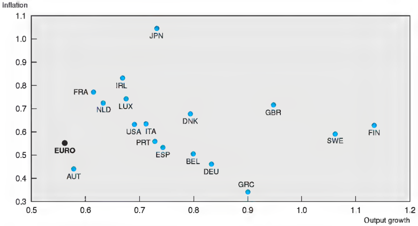
shocks (or, equivalently, shifts in the Phillips curve), the higher the volatility of the output and unemployment gaps will have to be in order to minimise the variance of inflation.

While the relative weights put on the stability of output versus inflation in a central bank's reaction function are to a large extent a matter of preferences, the trade-off can be more or less favourable depending on the size, frequency and propagation mechanism of exogenous shocks (including policy mistakes) and these factors are in fact difficult to disentangle.[100] Looking at the variance of inflation and output growth for European Union countries and the United States over the past 20 years (Figure 29), only a few countries appear to either have benefited from a distinctly better trade-off (Austria) or suffered from a clearly less favourable one (United Kingdom, Sweden and Finland). Abstracting from these countries, the others lie close to a downward sloping line with some tolerating higher inflation fluctuations in return for greater output stability and vice versa. Although the euro area as a whole appears to have enjoyed a more favourable trade-off than the United States, the fact that it has also been more favourable than for all of the Member States (except Austria) probably reflects an aggregation artefact.

Figure 29. **Volatility of output growth and inflation**[1]



1. Coefficient of variation between 1979 and 1998. Output and inflation are measured on the basis of annual real GDP and GDP deflator data, respectively.

Source: OECD Secretariat.

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Since structural rigidities directly influence the transmission mechanism, they can worsen the trade-off. For instance, the less sensitive inflation is to the output gap (the flatter is the slope of the Phillips curve) the less favourable the output-inflation variance trade-off is for a given variance of price shocks, as bringing inflation back to its target following a price shock will require a bigger output gap. On the other hand, the lower sensitivity of inflation implies that it will fluctuate less in response to perturbations to the output gap (*i.e.* aggregate demand or supply shocks). This may, however, be a mixed blessing to the extent that inflationary pressures may well build up more gradually, but should they gain momentum, they may become harder to break, making policy mistakes more costly to reverse.

In sum, the benefits of increased aggregate price and wage flexibility in terms of the stability of output and inflation will likely depend on the importance of relative price shocks compared to aggregate demand or supply shocks (*i.e.* shocks to the output gap). Which ones have dominated in the euro area in the past is not obvious given the inherent difficulty in identifying independent shocks that usually remain unobservable.[101] Using a VAR model to identify six types of structural shocks, Amano *et al.* (1999) have simulated the Bank of Canada's projection model and found that more rigidities, as reflected in a flatter Phillips curve, lead to a significant outward shift of the trade-off and hence are unambiguously undesirable. Given that Canada is a small, open economy, it is not clear that this conclusion would carry over to the euro area given its lower exposure to foreign price shocks. Moreover, results based on historical euro area-wide data may not be as relevant given their artificial nature and the EMU structural break.

In principle, the adverse consequences of rigidities on the sacrifice ratio and variance trade-off could be compensated by an increase in the credibility of monetary policy. The bigger the weight agents put on the official target in forming their inflation expectations, the less costly it is to achieve the target in terms of output fluctuations. However, this is at odds with the German experience after unification and to the extent that the factors causing higher market rigidities also contribute to raise the equilibrium unemployment rate, the task of establishing and maintaining high policy credibility is complicated by the risk that agents may expect the central bank to loosen monetary policy to bring unemployment closer to the socially optimal level (Jackman, 1999). Given the very low inflation environment in which the euro was introduced, it may be tempting for governments to pressure the ECB to exploit the short-run possibility of letting inflation drift upwards somewhat in return for a reduction in unemployment (Sibert and Sutherland, 1997 and Calmfors, 1998). Nevertheless, the ECB has a high degree of independence and a clear mandate for price stability; it will thus not put its credibility and price stability at risk by yielding to such pressures. Governments, however, can support monetary policy with a co-ordinated effort to reform labour and product markets, which would create the conditions for a sustainable decline in unemployment.[102]

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A common monetary policy in segmented markets

While the previous sub-section considered the macroeconomic policy implications of structural rigidities in the context of a unified market, the reality is that the objective of creating a single European market in goods, services, capital and labour remains to some extent unfulfilled, despite the enormous progress achieved.[103] From a common monetary policy perspective, market segmentation along national boundaries can be seen as adding an extra layer of rigidities over those prevailing in local markets, creating additional inefficiencies.

Since one consequence of market integration is to propagate the effect of asymmetric shocks more rapidly and evenly across a common currency area, a relatively high degree of segmentation can raise the persistence of region-specific shocks. Again in the context of a non-linear relationship between inflation and the unemployment gap, this would clearly worsen the short-term monetary policy trade-off between the levels of unemployment and inflation since a high dispersion of excess demand and supply gaps across countries would lead to inflationary pressures even if they all cancelled out at the area wide level.[104] One of the reasons why the Maastricht criteria put so much emphasis on cyclical convergence was to minimise the dispersion of output and unemployment gaps across would-be Member States. Furthermore, the significant progress made in the creation of the single market is helpful to the extent that differences in excess demand or supply pressures across regions can increasingly be absorbed by trade flows rather than showing up in inflation differentials.

However, the benefits of product and capital market integration in terms of creating a favourable output-inflation trade-off for the single monetary policy are likely to remain modest unless the process of integration spreads to labour markets. In contributing to perpetuating structural differences between Member States, labour market segmentation slows the convergence of structural rates of unemployment across countries. And, the wider the dispersion of structural unemployment rates across the segmented labour markets, the higher the average unemployment rate will be to achieve price stability. One reason is that the inflationary pressures generated by an excess demand gap in a low unemployment rate country will not be fully compensated by an equivalent excess supply gap in a high unemployment country. As a result, a wide cross-country dispersion of unemployment rates will raise the *aggregate* structural unemployment rate relative to the *average* of country-specific rates, causing an unambiguous worsening of the output-inflation trade-off (Tables 12 and 13).

Moreover, this inefficiency can be important even if the individual country trade-off is linear, since as long as the slopes differ across countries the aggregate trade-off will be non-linear. This can be important even in the case of symmetric shocks given that in responding to these shocks monetary policy must hit some regions disproportionately hard in order to fully offset the area-wide

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Table 12. Labour market segmentation and the unemployment-inflation trade-off

Labour market			
Integrated (low dispersion of structural unemployment rates)		**Segmented** (high dispersion of structural unemployment rates)	
Cyclical convergence		Cyclical convergence	
High (A)	Low (B)	High (C)	Low (D)
e.g. EMU leads to homogeneous industrial structure and better integration of labour markets	*e.g.* EMU leads to regional specialisation but labour market integration improves (comparable to US situation)	*e.g.* high frequency of symmetric shocks despite structural differences in labour markets	*e.g.* EMU leads to regional specialisation and labour markets remain segmented and inflexible
Euro area-wide NAIRU[1] not significantly different from the average of individual country NAIRUs	Euro area-wide NAIRU higher than the average of individual country NAIRUs if unemployment-inflation trade-off is non-linear	Euro area-wide NAIRU higher than the average of individual country NAIRUs if unemployment-inflation trade-off is non-linear[2] (see Table 13)	Euro area-wide NAIRU higher than the average of individual country NAIRUs under same condition as (B) and (C)
	Less favourable trade-off than (A)	Less favourable trade-off than (A)	Less favourable trade-off than (B) and (C)

1. Unemployment rate consistent with a stable inflation rate.
2. In this case, the aggregate trade-off may be non linear even if the individual country trade-offs are linear, as long as the slopes vary across countries.

Source: OECD Secretariat.

Table 13. Unemployment rate dispersion and the area-wide inflation rate

Illustrative example

	Non-linear gap effect: $\Delta \text{ INF} = f\left(\frac{U^* - U}{U}\right)$				
	Country 1 $U^* = 5.0\%$	Country 2 $U^* = 10.0\%$	Mean effect	Both countries jointly $U^* = 7.5\%$	% difference
GAP = – 2.0%	–0.29	–0.17	–0.23	–0.21	7.6
GAP = + 2.0%	0.67	0.25	0.46	0.36	26.7

This simple numerical example shows that the effect of both a positive and negative gap on inflation is stronger when unemployment rates diverge across countries relative to a situation where both countries have the same structural rate (both countries of the same size). However, as can be seen in the last column, the difference is significantly larger for excess demand than for excess supply gaps. Hence, the higher the dispersion of structural unemployment rates, the higher the area-wide unemployment rate has to be to stabilise inflation even in the case of symmetric shocks. A similar non-linear specification is used in the IMF Multimod model (Laxton *et al.*, 1998) as well as in the projection model of the Australian Treasury (Debelle and Laxton, 1998).

Source: OECD Secretariat.

inflationary effects. Finally, the better integrated product and capital markets are, the more likely structural differences across countries will be reflected into higher unemployment rate dispersion, unless labour market integration or mobility increases significantly. While greater wage and price flexibility within each market can help to limit the cost – if only by narrowing the cross-country dispersion of unemployment rates – it is not a perfect substitute for better integration. In fact, differences in equilibrium unemployment rates can reflect other factors such as a mismatch in labour skills, which may persist longer in a segmented market.

Based on estimated Phillips curves for the euro area countries, Demertzis and Hugues Hallett (1995*a*, 1998) evaluated the cost of labour immobility and market heterogeneity in terms of the increase in the euro area-wide sacrifice ratio. In particular, they found that the extra cost due to the large dispersion of unemployment rates (reflecting structural differences) was significantly more important than the worsening attributable to the dispersion of unemployment gaps (asymmetric shocks). For instance, their estimates suggest that inflation would have been one percentage point higher in the mid-1980s as a result of unemployment dispersion and that this inflation premium would have risen to two percentage points in the early 1990s, following a period of greater product market integration.

Despite the usual caveats and limitations associated with this type of empirical exercise and the uncertainties attached to the estimates, several factors suggest that the deterioration of the sacrifice ratio due to segmentation could be more significant in the euro area than in other large and relatively closed economies such as the United States. *First*, the dispersion of trend unemployment rates remains relatively high across the euro area, especially compared to major United States regions despite some progress achieved since 1993 (Figure 30). The regional dispersion is higher even within the four largest euro area countries, especially in the case of Spain and Italy, suggesting that the problem of labour immobility in Europe goes much deeper than the issue of language and cultural barriers.

Second, as documented in Annex VI, capital, product and especially labour markets are more segmented in the euro area than in federations such as the United States or Canada. Furthermore, as mentioned earlier, much more progress has been achieved with respect to the integration of goods and capital markets compared with labour markets, where Europe remains way behind the United States (EC, 1999*a*). *Third*, the results from wage equations reported in Table 11 indeed suggest that a relatively large degree of heterogeneity still prevails across euro area countries with respect to wage determination, in particular with the identification of two distinct groups in terms of the speed of wage adjustment.

On the other hand, there is some evidence on the basis of Phillips curve estimates that wage-setting in Germany has had a significant leadership effect in the past on aggregate inflation by influencing wage settlements in several ERM

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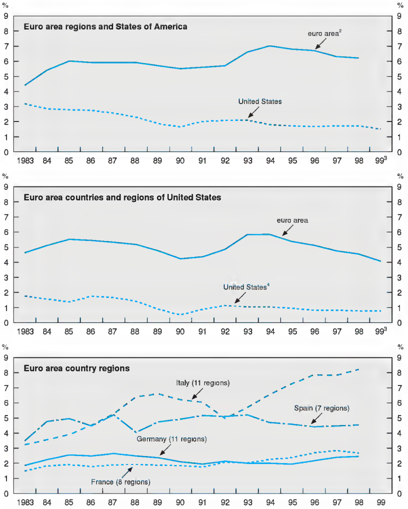
Figure 30. **Dispersion of unemployment rates**[1]



1. Standard deviation.
2. 42 regions, based on the Nuts 1 classification.
3. OECD estimates for the euro area and based on the first 9 months for United States.
4. 9 regions: New England, Middle Atlantic, East North Central, West North Central, South Atlantic, East South Central, West South Central, Mountain and Pacific.

Source: OECD Secretariat.

countries.[105] In the case of France, Italy, the Netherlands, Belgium and Austria the statistical properties of the country-specific Phillips curve are significantly improved when the national unemployment gap is replaced by the German gap (Table 14, panel A).[106] The fact that all these countries were long-time members of the ERM and that most (Italy being the sole exception) avoided significant currency devaluations after the mid-1980s, including during the 1992 and 1993 ERM crisis, is undoubtedly more than just a coincidence. Without the option of an exchange rate adjustment to restore competitiveness, wage setters in these countries behaved in a way to keep the cost of domestically-produced goods sufficiently attractive to maintain market shares.[107] Moreover, the effect of the German gap on inflation is statistically the same across all six countries (panel B). As for the others (Spain, Portugal, Ireland and Finland), their Phillips curve specification also improves when the euro area-wide unemployment gap is used instead of the domestic gap (except for Portugal), suggesting perhaps a dominant influence from activity in the core countries on domestic price determination, even after controlling for relative import prices.

Table 14. **System estimates of Phillips curves (panel A)**[1, 2]

	Change in			Unemployment gap
	Unemployment rate	Relative import prices	Real wage/ productivity	
SYSTEM 1 (National gap)				
Germany	–0.32**	0.20**	..	–0.19***
France	–0.47*	0.36***	0.23*	–0.18*
Italy	..	0.71***	..	0.05
Austria	..	0.44***	..	–0.03
Belgium	–0.35***	0.14***	..	–0.06**
Netherlands	–0.17	0.05	..	–0.06
Finland	–0.46***	..	..	0.02
Ireland	..	0.06	0.15**	–0.04
Portugal	..	0.41***	..	–0.14*
Spain	–0.33**	..	0.20**	–0.02
SYSTEM 2 (German or euro area gap)				
Germany (German gap)	–0.32**	0.19**	..	–0.23***
France (German gap)	–0.52**	0.36***	0.23**	–0.28***
Italy (German gap)	..	0.68***	..	–0.24**
Austria (German gap)	..	0.45***	..	–0.27***
Belgium (German gap)	–0.42***	0.13***	..	–0.20***
Netherlands (German gap)	–0.22	0.03	..	–0.23***
Finland (euro area gap)	–0.50***	..	..	–0.41**
Ireland (euro area gap)	..	0.05	0.15**	–0.12
Portugal (euro area gap)	..	0.32***	..	–0.20
Spain (euro area gap)	–0.35**	..	0.22**	–0.06

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Table 14. **System estimates of Phillips curves (panel B)**[1, 2]

	Change in			Unemployment gap[3]
	Unemployment rate[3]	Relative import prices[3]	Real wage/ productivity[3]	
SYSTEM 2 with restrictions				
Germany	**–0.29*****	**0.14*****	..	**–0.23*****
France	**–0.46*****	**0.37*****	**0.18*****	**–0.23*****
Italy	..	0.67***	..	**–0.23*****
Austria	..	**0.37*****	..	**–0.23*****
Belgium	**–0.46*****	**0.14*****	..	**–0.23*****
Netherlands	**–0.29*****	**0.04**	..	**–0.23*****
Finland	**–0.46*****	..	..	–0.39**
Ireland	..	**0.04**	**0.18*****	–0.08
Portugal	..	**0.37*****	..	**–0.14**
Spain	**–0.29*****	..	**0.18*****	**–0.14**
Euro area				
GDP-weighted average	–0.35	0.33	0.18	–0.22
Estimate from aggregate data	–0.46**	0.69***	0.19**	–0.10

Note: *** Statistically significant at 1 per cent, ** 5 per cent and * 10 per cent level.

1. Each equation relates the change in the growth rate of the private consumption deflator to the change in the unemployment rate, the change in relative import prices, the change in the ratio of the real wage to productivity and the level of the unemployment gap (with the NAIRU obtained by applying the Hodrick-Prescott filter to the series of observed unemployment rates). The equations for the euro area Member States are estimated jointly in a pooled system. In the top panel, two systems have been estimated; one where the national unemployment gap is used in each equation and the other where the German gap is used for some countries and the euro area wide gap for the others. In the lower panel, common parameter restrictions are imposed on system 2.
2. The estimates are obtained from a sample of semi-annual data covering the period 1969-98 for most countries. For the euro area, aggregated data are available from 1971.
3. A common-parameter restriction has been imposed on coefficients in bold.

Source: OECD Secretariat.

Market integration, structural reform and the role of EMU

While the benefits of product market integration may not be fully reaped unless they are accompanied by greater labour market integration, the possibility that the former may eventually lead to the latter can not be excluded. By eroding the monopoly rents that allowed inefficient firms in protected sectors to survive, the intensification of competition in goods and service markets brought about by the single market could lead to pressures for higher wage and price flexibility and/or labour mobility. As mentioned earlier, although increased wage flexibility is not a perfect substitute for labour market integration, it can create a more favourable euro area-wide output-inflation trade-off by reducing both the persistence of asymmetric shocks (country-specific gaps) and the cross-country dispersion of equilibrium rates.

In this context, EMU may indirectly contribute to labour market reform by magnifying the effect of product market integration. The complete elimination of exchange rate risk and the increase in price transparency associated with the introduction of the euro could go a long way in reducing the home bias and the width of the intra-European borders (see Annex VI). Using a gravity model of international trade, De Grauwe and Skudelny (1999) found that eliminating nominal exchange rate variability among EMU participants would have raised trade flows in the long run by about 8.5 per cent of the average yearly trade flows during the 1962-95 period.[108] In a similar vein, Rose (forthcoming) estimates that countries sharing the same currency trade three times as much with each other as they would with different currencies. On the other hand, some have argued that the price transparency argument is vastly overblown given that in a world of significant product differentiation, brand loyalties and goods or services designed to customer specifications, there is much more to competition than just pricing policy (Posen, 1999). Moreover, although price dispersion is lower in the D-Mark area countries (Germany, Austria, Belgium and the Netherlands), there is no clear evidence that high exchange rate stability since the mid-1980s between these countries has led to faster price convergence (Nicoletti *et al.*, 1999*b*). In this respect, the introduction of the euro by itself can not be expected to bring as much in terms of competitive pricing behaviour as the on-going process of dismantling internal barriers under the single market programme.

Nevertheless, there are several ways in which EMU can directly affect the process of labour market reform towards greater mobility or flexibility. For those who believe that EMU will foster reform, the case essentially rests on the argument that there is no alternative. The idea is that before EMU the adaptation to rising pressures from trade competition and country-specific shocks could always be facilitated by an exchange rate realignment to restore domestic competitiveness. With that option no longer available, the adjustment must necessarily come through larger output and employment fluctuations given sluggish relative prices changes. And, the higher is the degree of real wage rigidity and labour immobility, the more painful the adjustment process is likely to be, especially in countries where the cyclically-adjusted public sector deficit is still too high to let automatic fiscal stabilisers play fully their role as shock absorbers (Berthold *et al.*, 1999).[109] Moreover, the cost could be further exacerbated if the full implementation of the single market leads to regional specialisation, as has been the case in the United States (Bean, 1998 and Calmfors, 1998). According to the optimistic view, all these factors combined should increase public awareness of the absence of a viable alternative and widen the political support in Member States for bold labour market reform.

Whether or not this will indeed be sufficient to make labour unions or even the public at large more inclined to accept the type of reforms they have largely resisted so far remains to be seen. After all, for a large core of insiders, the

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perception of the sacrifices involved remains much clearer than the more distant and diffuse benefits. And unless EMU changes this perception, resistance to reform could remain well entrenched. This may be particularly relevant given that under EMU the cost of structural reform in terms of the loss of benefits for some may not be as easily compensated by accommodative monetary and fiscal policies, unless the process of reforms is sufficiently co-ordinated across Member States (Jackman, 1999). A high degree of co-ordination may not be easily achievable given that the need and political appetite for reforms may differ across countries.

On the other hand, there is some evidence that several years of tight ERM membership, including the painful adjustment to at least one large asymmetric shock (German re-unification), may have stimulated labour market reform. For instance, one could argue that the ERM has directly contributed to important reforms in Italy, in particular the dismantling of the *scala mobile*, and including wage moderation and revised industrial relations. Another example is the significant increase in the share of temporary contracts in total employment in countries such as France and Spain. This is also consistent with empirical evidence suggesting that wages have become more sensitive to market signals in the 1990s (Cadiou *et al.*, 1999) and that the wage determination process in a number of European Union countries has drifted towards decentralisation despite little change in related legislation (OECD, 1997*a*).

Another way in which EMU could change perceptions and stimulate structural reform is by altering the behaviour of firms. It is reasonable to assume that with increased capital mobility and trade, firms will become even more sensitive to overall labour cost differentials and business regulations in choosing a particular location within the euro area (Bean, 1998).[110] Again, without the option of currency realignments to prevent unit labour costs from getting out of line, pressures to adopt more flexible wage, tax and business regulation practices may become more difficult to resist. In any case, it is likely that the process of wage negotiation prevailing in individual countries will itself be affected by EMU, but in a way that remains difficult to predict given that several plausible scenarios can be envisaged.

In the near term, one possibility is that the German labour market continues to lead wage inflation in former hard-core ERM countries, as was observed under the ERM regime. It is plausible that wage bargainers in many euro area countries will watch wage settlements in Germany closely, as has been observed in recent years, so that the passage to EMU may not represent a clear break from past behaviour. However, there are reasons to believe that the German influence may gradually diminish with the passage from ERM to EMU. One is that the set of incentives for disciplined wage behaviour that prevailed under ERM is different under EMU. Given that the ERM was *de facto* anchored on German monetary policy, and that the Bundesbank was primarily concerned with inflation in Germany,

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there was a general incentive for unions in Germany and elsewhere to take into consideration the inflationary consequences of their wage settlements, either for fear of monetary tightening in Germany or loss of competitiveness in the other ERM countries. Under EMU, unions may feel less concerned by the inflationary implications of their actions given that these would be more diffused at the euro area-wide level and that the importance attached to national inflation rates is bound to diminish (Cukierman and Lippi, 1999). In a sense, EMU may have the effect of transforming centralised and co-ordinated wage negotiations at the national level into a half-decentralised and unco-ordinated system at the euro area-wide level, with adverse implications for aggregate unemployment (Wyplosz, 1999).

This could lead to a gradual erosion of the centralised wage bargaining system in place in several European countries and the emergence of pan-European alliances between workers' representatives at the sectoral or industry level. In such case, there would likely be a tendency for wage equalisation across countries within one sector, which could be fostered by the absence of exchange rate illusion (Demertzis and Hugues Hallet, 1995*b*). This need not be a problem if two conditions are met. One is that wage equalisation within sectors is matched by a convergence of productivity levels, which may take time to materialise if this requires substantial capital investment in some countries. Otherwise, the risk of higher unemployment in the relatively low productivity countries will be high.

The second condition is to ensure that the sensitivity of wages to market conditions continues to rise so as to facilitate the adjustment to shocks, which can no longer be facilitated by currency realignments.[111] This implies, for instance, maintaining a proper balance between the power of unions (insiders) in pan-European sectors and the effectiveness of unemployed (outsiders) to exert wage moderation. While in many countries the power and influence of insiders has been compensated by either a high degree of cross-sector co-ordination of wage negotiations or national incomes policies, it is not clear whether such mechanisms will continue to represent feasible (second-best) options in a context of euro area-wide sectoral wage bargaining. Nevertheless, this may not be of immediate concern given that fully-fledged European Union-wide collective agreements have yet to emerge.

Against this background, the challenge for policy makers is to encourage European Union-wide labour market flexibility while resisting pressures to harmonise income support across countries which would be detrimental to incentives and labour market performance. The combination of low labour mobility and the centralisation of labour market policies at the national level has created the conditions for persistent regional labour market imbalances within Member States (Pench *et al.*, 1999). As discussed earlier, the reason is that in a context of significant differences in regional productivity performances, a fully harmonised income-support policy acts as a wage floor in poorer regions, creating a downward

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rigidity. Hence, unemployment tends to rise by more in less productive regions following an adverse shock than it declines in highly productive regions in response to a favourable shock of equivalent magnitude.

In order to avoid reproducing at the euro-area wide level the sort of regional imbalances found in some Member States, it is therefore important to consider that a higher degree of labour market integration need not imply institutional or policy harmonisation. In this respect, while the process of product and capital market integration has been accompanied by a significant transfer of power from national authorities to the European Union, it may well be that in order to stimulate institutional competition, labour market policies should remain largely decentralised (Soltwedel *et al.*, 1999). The risk that this would create conditions for "social dumping" as countries compete to attract and retain firms could be limited provided wage flexibility is increased. Ultimately, it is total unit labour costs that matter for producers and as long as non-wage cost differentials are compensated by productivity or wage differentials, market integration is not incompatible with heterogeneity in social policies. The risk of "social dumping" can be further limited by preventing Member States from offering preferential tax treatment or social norms to lure foreign firms, a behaviour already considered under European Union policy as unfair competition.

While the debate on social harmonisation goes back to the early stage of the creation of a European economic space, it has often intensified during periods of faster integration or enlargement (Sapir, 1997). In this respect, the introduction of the euro combined with the prospect of enlargement to countries with significantly lower levels of wages and social protection is likely to keep the issue in the forefront of European Union policy discussions for some time. So far, the European Union approach has been to seek harmonisation in a limited number of aspects related to working conditions and to promote the social dialogue at the European level with the aim of widening the kind of social partnership that exists within several member states (Sapir, 1997, Begg *et al.*, 1998). While the European Union-wide social dialogue is still in its infancy, it is unlikely that the current European Union-wide minimum labour standards have had a significant impact on regional labour market imbalances, especially compared with minimum wages and wage floors set by collective agreements at the national level or by administrative extension. Moreover, for as long as differences in productivity and economic structures across European Union countries prevail, greater social harmonisation would likely require a strengthening of the European Union-wide redistributive mechanisms, which would become costly as the example of the German reunification illustrates. In this context, the approach followed by the European Union, based on a combination of decentralisation and co-ordination of national employment policies along with the enforcement of minimum social standards agreed upon by Member States will need to proceed carefully to ensure the right balance between equity and efficiency considerations (Box 12).

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Box 12. The co-ordination of employment policy at the EU level

The competencies of the Council and the Commission are much more limited in the employment area as compared to the large set of competencies concerning product market regulation. While the 1987 Single Act introduced the notion of "economic and social cohesion", this aimed largely at raising living standards in lagging regions. In 1989, a more comprehensive Social Charter complemented the Single Act, which granted more competencies, and the Maastricht Treaty included an agreement on Social Policy. Currently, some 70 directives and regulations are in effect, largely covering mutual recognition of professional standards, working conditions, health and safety issues, workforce mobility, social security provisions for migrant workers and equal opportunity legislation.

Employment policy co-ordination advanced with the 1997 Amsterdam Treaty. Although the responsibility for deciding and implementing employment policies has remained largely with Member States, the Treaty established the basis for a co-ordinated and common employment strategy, and introduced the promotion of a high level of employment as an explicit goal of the Union. The main ingredients of the approach include annual meetings of the Heads of State and governments (the European Council) to evaluate the employment situation, based on a Joint Employment Report by the Ecofin/Labour and Social Affairs Council and the Commission. The Council then adopts Employment Guidelines for the Member States. The Council also examines annually the implementation of the Guidelines and, if necessary, issues recommendations to member states. The third set of Guidelines, endorsed at the Helsinki Summit in December 1999, revolves around four pillars: employability, entrepreneurship, adaptability and equal opportunity.

As part of the employment co-ordination process, Member States submit National Action Plans (NAPs), which outline each country's strategy for implementing the Employment Guidelines. While policy commitments in the NAPs reflect the specific circumstances of Member States, there are also common features. These include a strong emphasis on active labour market policies, employability and entrepreneurship. Other aspects, which are also stressed in the OECD *Jobs Strategy*, such as wage flexibility, the rules governing eligibility and controls on job search or employment protection legislation, receive much less attention.

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Notes

1. The fact that industrial output data come out well ahead of GDP data may have added gloom, even taking into account the well-known fact that cycles are more pronounced for the former than for the latter.
2. Intra-euro area dispatches meanwhile increased by 2 per cent in value terms.
3. Not all the recent labour market policy initiatives have worked in this direction, however, witness the case of Germany (OECD, 1999*d*).
4. To some extent, the measured employment performance may be upward-biased by the introduction of new labour force survey sample formats, not least in the case of Spain.
5. Particularly if the standard deviation of regional unemployment rates is used as the dispersion measure. The coefficient of variation, which controls for the average rate of unemployment, attenuates the trans-Atlantic contrast somewhat (notably in the case of Spain).
6. For more detailed discussions, see the previous EMU study (OECD, 1999*a*), Pench *et al.* (1999) and Mauro *et al.* (1999).
7. In Germany for example, electricity price cuts are not occurring simultaneously across states.
8. The 2000-01 projections presented in this section are those included in *Economic Outlook* No. 66, based on the information available as of early November 1999. The 1998 data are based on outcomes as published by Eurostat and the ECB and the 1999 data on estimates reflecting the information available as of end-January 2000.
9. In the case of "e-commerce", the HICP will not in the near future directly reflect the lower prices posted on Internet. But by raising transparency and heightening competition, "e-commerce" is likely to have significant indirect effects that will be recorded by the HICP.
10. The projections are based on the technical assumption of unchanged nominal exchange rates.
11. The Eurosystem includes the European Central Bank (ECB) and the 11 national central banks (NCBs) of the Member States participating in Stage Three of EMU, thus being the analogue of the Federal Reserve System in the United States. The European System of Central Banks (ESCB) comprises the ECB and the 15 European Union NCBs. Details on the institutional set-up were provided in the previous EMU study.
12. The chapter does not discuss the impact of EMU on other regions of the world. On this subject, see Feldman *et al.* (1999), Kopits (1999), Masson (1999) and Ruhashyankiko (1999).

13. At 40.3399 Belgian and Luxembourg franc, 1.95583 German mark, 166.386 Spanish peseta, 6.55957 French franc, 0.787564 Irish pound, 1936.27 Italian lira, 2.20371 Dutch guilder, 13.7603 Austrian schilling, 200.482 Portuguese escudo and 5.94573 Finnish markka per euro.
14. The psychological salience of a $/€1.00 parity may have led to one-sided, or at least asymmetrical, market expectations (Krugman, 1999).
15. The data underlying such calculations can be found in the EC's quarterly publication on cost competitiveness.
16. A recent report illustrates this uncertainty (CAE, 1999): based on various long-run cost and price averages, the 1998 equilibrium rate is estimated to lie in the $/€0.80 to 1.19 range (p. 195), while based on the so-called fundamental equilibrium exchange rate approach, which assumes a gradual decline in the current account deficit of the United States, the estimated range is $/€1.07 to 1.43 (p. 202). Another study based on a model reconciling internal and external balance, using panel data cointegration techniques, concluded that at the end of 1998, the equilibrium rate stood at $/€1.26 (Alberola *et al.*, 1999).
17. See Gerlach and Smets (1999).
18. As discussed in the previous EMU study, the notion of a normative Taylor rule is problematic, and empirical estimates of the warranted interest rate diverge considerably, at least in level terms.
19. See Huizinga and Eijffinger (1999) for a discussion on the merits of (in)frequent moves, and Orphanides and Wieland (1999) for a formalisation of the idea that in the presence of various types of uncertainties, it may be optimal for a central bank not to respond to small movements of inflation within some comfort range. The Bank of England's greater "activism" may also be related to the symmetric nature of its inflation target.
20. Denoting the average spread on 10-year government bonds *vis-à-vis* Germany during the first half of 1999, in basis points, as s (obtained from Bloomberg), the ratio of the 1999 debt/GDP ratio projected by governments in their first stability programmes to that in Germany, in per cent, as d, and defining liq as an indicator of market depth (measured by the stock of outstanding public sector bonds at end-March 1999 as published by the Bank for International Settlements in the country under consideration divided by that in Germany), the following ordinary least square regression obtained (with t-statistics in parentheses):

    $$\begin{array}{lllll} s = & 20.26 & + \; 0.25\, d & - \; 10.82\, liq, & \text{with an adjusted R-square} = 0.32. \\ & (6.78) & (2.28) & (2.00) & \end{array}$$

    While the number of observations is too small for statistical comfort, this relationship is quite suggestive.
21. For recent discussions of the pros and cons of monetary condition indicators, see Gerlach and Smets (forthcoming) and Peeters (1999). It ought to be noted that the Eurosystem tends to downplay the usefulness of such indicators.
22. There is no fully consistent historical monetary series: M3 and its components are compiled based directly on balance sheet information of the monetary and financial institutions located in the euro area only since September 1997. The ECB has published an estimated monthly historical series for euro-area M3 starting in 1980 (ECB, 1999*b*). Since the present definition of M3 does not coincide with the national definitions of broad money used until Stage Two, some approximations were involved. In addition, there is the problem of the weights used in aggregation: the

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ECB chose to use the irrevocable conversion rates fixed on 31 December 1998, but other studies have adopted different approaches, notably the use of current exchange rates or the use of fixed weights based on GDP at purchasing power parity.

23. To a limited extent, this may reflect the impact of the new reserve requirement rules (described below), which in countries such as Germany and Italy would encourage substitution towards short-term deposits.
24. Consistent with past practice by the Bundesbank, the Banque de France and other central banks of what was to become the euro area, and with the 0-2 per cent range given earlier by the European Monetary Institute as the definition of price stability (EMI, 1997).
25. The notion of a medium-term is not quantified. In that sense, the horizon is indefinite.
26. Implicit in this derivation is a view that an annual increase in the GDP deflator of 1 to 2 per cent is consistent with maintaining HICP inflation below 2 per cent.
27. It might also have been felt that raising the reference value at a time when the euro was breaking new lows might have pushed it down further.
28. The Eurosystem uses a quarterly macro-econometric model for the euro area and, in conjunction with the NCBs, a quarterly multi-country model, to conduct broad forecasting exercises. Those models are still somewhat experimental and have not yet been published.
29. The inflation target is 2 per cent in Sweden, 2.5 per cent in the United Kingdom (where it should be noted that this has been equivalent to about 1.5 per cent in HICP terms), 0 to 3 per cent in New Zealand, 1 to 3 per cent in Canada, and 2 to 3 per cent in Australia over an unspecified business cycle. In Sweden and the United Kingdom, a "tolerance margin" of ±1 percentage point around the target is provided for. In contrast, in the United States, no specific inflation target is spelled out.
30. Angeloni *et al.* (1999). A complication in this regard is that from January 2000, the HICP's coverage is broadened to include additional health-related, social protection and insurance items, without backdata being produced for the thus improved index.
31. See Akerlof *et al.* (1996). Their line of reasoning is not uncontroversial, however, as discussed by Yates (1998).
32. See in particular Coenen and Vega (1999), which is one of the first studies to look at the behaviour of M3 based on a retropolation of the new M3 aggregate, thus minimising the statistical if not the structural break in the series.
33. See also Box 11 on aggregation in Chapter IV.
34. Even if it does not commit itself to a unique measure thereof.
35. The only publicly acknowledged instance in which the ECB conducted foreign exchange operations in the market took place in mid-June 1999: the Bank of Japan asked for the activation of an agency agreement with the Eurosystem, and the latter sold yen against euros on behalf of the Bank of Japan. The Eurosystem does not necessarily communicate on foreign exchange market operations, however.
36. For a short while, this perception was fuelled by slightly ambiguous comments by ECB President Duisenberg during a hearing at the European Parliament's Sub-Committee on Monetary Affairs on 19 April 1999 ("Not having an exchange rate policy, and we have no policy, does not mean that there is benign or malign neglect. For the time being there is neglect."), which were clarified in a 4 May speech in

Warsaw ("we do not have a target for the exchange rate of the euro, for example, against the US dollar. This does not mean, and it is good to underline this once more, that the ECB is indifferent to the external value of the euro or even neglects it").

37. The Eurosystem is subjected to the close scrutiny of scores of market analysts, academics and other commentators. In addition, several independent bodies of experts (*e.g.* the Centre for Economic Policy Research in London, the Centre for European Policy Studies in Brussels and the Zentrum für Europäische Integrationsforschung in Bonn) have set up fora to monitor Eurosystem policy.
38. The bivariate correlations between the frequency of statements and exchange rate movements exhibited to justify these conjectures should be taken with more than the usual grain of salt, if only because they fail to properly control for reverse causation, *i.e.* the possibility that officials would be interviewed more often when the euro was depreciating.
39. Notably on the part of the German Minister of Finance, in June 1999.
40. The same line is adopted by some ECB watchers, *e.g.* ZEI (1999).
41. See the discussion on the frequency and remit of Council meetings in Goodfriend (1999) and Wyplosz (1999).
42. See Cukierman (1999), who argues that full transparency means that the ECB would give up an information advantage that could have been exploited to achieve lower inflation and employment variability. Geraats (1999) instead argues that more disclosure is unambiguously preferable.
43. Different product and labour markets characteristics may also account for heterogeneous impacts, see Chapter IV.
44. The credit channel narrowly defined postulates that in the face of a tightening of monetary policy, credit supply drops; in a broader definition, it posits that the ability or willingness of borrowers to raise external funds declines as a result of the fall in net worth induced by monetary policy tightening.
45. See for instance Kieler and Saarenheimo (1998), Maclennan *et al.* (1999), de Bondt (1999), Favero *et al.* (1999) and Mojon (1999*a*, *b*).
46. Their production was launched in mid-1999. In early 1999, consideration was given to introducing notes and coins earlier, but it was deemed that shortening the three-year transitional period would entail significant logistical and political costs while benefits would be limited (EC, 1999*g*). From 1 January 2002, Member States will try to ensure that the bulk of cash transactions can be carried out in euro within a fortnight but will have 6 months to cancel the legal tender status of national notes and coins.
47. The gap is even larger for equities.
48. The coverage is broader for some indices, encompassing the United Kingdom, Sweden and Switzerland as well (in the case of the Footsie Eurotop).
49. Frenkel and Søndergaard (1999) have attempted a crude quantification.
50. This section tends to cover the "outs" in several respects since supervision *per se* is dealt with at European Union rather than euro area level.
51. That there is ample room for more competition and concentration is established empirically by De Bandt and Davis (forthcoming) and De Bandt (1999).

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52. For example, the French Minister of Finance has publicly explained that during the take-over battle between Société Générale, Banque Nationale de Paris and Paribas, no foreign bank would be allowed to use the opportunity to get control of one of them. In another recent case, the Portuguese authorities tried to block the take-over of a domestic institution by a Spanish bank, a move which the Commission countered, however, on the grounds that it is incompatible with European Union competition law.

53. Commissions from foreign exchange operations account for a small portion of non-interest bank income, but the projected decline is abrupt.

54. An early version of the ESCB Statute, drafted by European Union central bank governors, foresaw an active supervisory role for the ECB (Arnold, 1999). Consistent with this view, Mr. Duisenberg, then President of the Nederlandsche Bank and of the Bank for International Settlements, explained "in my opinion, banking supervision is a central bank function. The combination, within the central bank, of banking supervision with lender of last resort, oversight and monetary policy functions offers distinct advantages" (Speech delivered in Seoul on 19 June 1995, as cited by Prati and Shinasi, 1999).

55. "Host country" competence applies, however, for the supervision of the liquidity of foreign branches.

56. See Prati and Shinasi (1998), Begg *et al.* (1998), European Shadow Financial Regulatory Committee (1998), Danthine *et al.* (1999), Gros *et al.* (1999) and Aglietta (1999). Greater regulatory centralisation has been advocated for stock exchanges as well, by France and Italy in particular, who have even argued in favour of a single European securities regulatory authority. However, Germany and the United Kingdom for instance consider further harmonisation would suffice, noting that legal systems differ too much across countries for centralised regulation to be workable in the near future.

57. See for example the overview in Commission Bancaire (1999).

58. For a theoretical discussion, see Beetsma and Uhlig (1999).

59. The precise modalities are spelled out in Box 4 of the previous EMU study.

60. See the Opinion of the Monetary Committee on the content and format of stability and convergence programmes endorsed by the Council on 12 October 1998.

61. The full text of the programmes is posted on http://ue.eu.int/emu/en/index.htm. The fact that some programmes were drawn up much earlier than others complicates cross-country comparisons.

62. A wider safety margin would be required for the "outs" to the extent that their non-participation in the single currency exposes them to greater business cycle fluctuations (but this is a moot point).

63. The Commission further noted that detailed annual information on the path of macroeconomic and fiscal variables and the structure of fiscal revenue and expenditure was missing in some programmes, while the figures provided in others were outdated or presented using national rather than European accounting conventions (EC, 1999*f*).

64. 1999 growth was revised upwards significantly for Ireland, Sweden and the United Kingdom.

65. In the case of Italy, the size of the revision to the growth forecast led the authorities to notify to the Commission in early 1999 that the deficit projection for the year would have to be increased from 2.0 to 2.4 per cent of GDP. In the event, however, the original objective was met.
66. The data in Figures 21 and 22 and in Table 5 are partly based on ESA95. Eurostat has recently published an ESA95 series which shows net lending in 1995 at –7.5 per cent of GDP for the euro area, reflecting *inter alia* revised figures of –9.8 per cent of GDP for Germany and –9.1 per cent of GDP for the Netherlands (those revisions respectively stem from a change in the treatment of Treuhand debt and of subsidised housing loans). To analyse the evolution of the fiscal stance, however, it is preferable to set aside such operations, as is done by the Commission and the OECD.
67. The hypothetical shock would come on top of the projected interest rate path, which assumes a gradual rise in short and long-term rates.
68. See also the stochastic simulations carried out with the NiGEM model of the National Institute for Economic and Social Research (Barrell *et al.*, 1999). It should be borne in mind, however, that the full impact would only materialise over time, at a speed depending on the maturity structure of the fixed-interest rate component of the public debt. The Greek authorities, for instance, estimate in their updated convergence programme that a lasting ½ percentage point interest rate shock would increase the deficit in 2002 by only 0.2 percentage point of GDP, notwithstanding a high public debt ratio.
69. During the run-up to monetary unification, a number of imaginative schemes were used in various countries with a view to accelerate the reduction in the measured deficit without actually tightening the fiscal stance, most of which (albeit not all) were endorsed by Eurostat as Maastricht-compliant (Dupuis, 1998).
70. See Fatás and Mihov (1999) and Van den Noord (2000). The automatic fiscal stabilisers have been estimated to be about twice as large in Finland as in Austria, even though country and government size are not vastly different (Van den Noord, 2000).
71. The approaches encompass: the Commission's original estimates (EC, 1999*f*); the two scenarios in the work by Dalsgaard and de Serres (2000), involving a three-year horizon and respectively a 90 and 95 per cent confidence level.
72. The requirement to reach a position "close to balance or in surplus" pertains to 2002, but the latest full OECD projections do not extend beyond 2001.
73. On this topic, recent work and information includes Besley and Seabright (1999) and EC (1999*c*).
74. Article 104 stipulates that in that case, the debt ratio must be "sufficiently diminishing and approaching the reference value at a satisfactory pace".
75. Underlying ancillary hypotheses are that trend real GDP growth would amount to 2¼ per cent and trend inflation to 1½ per cent. Stock-flow adjustments such as debt reductions financed by privatisation receipts are also abstracted from.
76. See *inter alia* OECD (1998*a*), Roseveare *et al.* (1997), Turner *et al.* (1998), Blöndal and Scarpetta (1999), and Visco (1999).
77. See Raffelhüschen (forthcoming) for 12 of the European Union countries and Auerbach *et al.* (1999) for Portugal (owing to data problems, Greece and Luxembourg are not covered). While interesting, the results obtained via this approach should be interpreted with care.

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78. In this framework, real GDP is expressed in terms of consumer purchasing power. The terms of trade effect captures the divergence of the GDP deflator from the consumption deflator.

79. This is on the basis of productivity per hour. European Union countries still lag the United States in terms of productivity per person employed despite significant catch-up achieved especially in the 1970s and the 1980s.

80. Alternatively, the latter two phenomena can be viewed not as shocks *per se* but rather as part of a very slow dynamic factor adjustment process in response to developments that took place in the 1970s (Caballero and Hammour,1998).

81. Greece eventually suffered from weak employment growth in the 1990s.

82. The approach emphasises the interaction between shocks, institutional arrangements and structural policies to explain diverging labour market performances and has been broadly endorsed by the EC and the IMF in recent contributions (EC, 1999*j* and IMF, 1999).

83. For example, the prediction that stringent job security provisions would unambiguously lead to a slower job turnover may not be so easily supported by the data if the effect is offset by a wage bargaining process that leads to a relatively low wage dispersion (Bertola and Rogerson, 1996).

84. Table A3 summarises recent empirical work on the link between institutions and performance.

85. See Daveri and Tabellini (1997) and Elmeskov *et al.* (1998).

86. See Krueger and Pischke (1997). They refer to Nickell and Bell (1995, 1996) as well as to OECD (1996) for evidence that unemployment has risen more or less proportionately across skill levels in European countries (except Italy), which they argue is inconsistent with the relative wage rigidity hypothesis.

87. This view is partly corroborated by Koedijk and Kremers (1996) who found that the effect of product market regulation is stronger than that of employment protection legislation on output growth, labour productivity and, hence, on employment growth. Nickell (1999) also shows theoretically how monopoly power in product markets can have adverse effects on labour market performance.

88. Financial market regulations can also have a significant impact. Financial market fragmentation in the European Union is discussed in Chapter II.

89. An evaluation covering a large number of sectors can be found in EC (1996).

90. They are presented in detail in Nicoletti *et al.* (1999*a*) and a summary discussion appears in OECD (1999*e*). It is important to note that these indicators describe the framework in place but do not assess how well or poorly that framework is implemented.

91. While very elaborate, the indicator does not include environmental regulations and competition policy in a narrow sense, which could bias country rankings. As well, the indicators do not cover financial market regulation. Moreover, the indicators are based on a 1998 questionnaire and in some policy areas, for instance, electricity, telecommunications or privatisation, policy has moved on since.

92. The mechanisms via which the speed of real wage adjustment and long-term wage flexibility affect (un)employment in the long run are discussed in detail in annexes IV and V.

93. The equations for the euro area countries are estimated jointly using a pooled time-series cross-country regression technique. In panel A, no parameter constraints are imposed on the system except for dropping coefficients which had very low significance levels in preliminary steps. Two versions of the system were estimated: one where the national unemployment rate is used to reflect labour market tensions, and the other where unemployment in the euro area is used instead. Based on these results, constraints of equality on cross-country parameters for some of the variables (speed of adjustment and the long-run elasticity of real wages to unemployment and productivity) have been imposed unless they were rejected on the basis of a formal testing procedure (panel B). For the estimates shown in panel B, the euro area-wide unemployment rate has been used for every country except Germany, where the national unemployment rate produced better results.
94. The results are also broadly consistent with those presented in the previous EMU study which were based on annual data and which treated each country separately in the estimation process.
95. The presence of Portugal in the group of slow adjustment countries may seem counter-intuitive given its relatively low unemployment record. However, Portugal is the only country along with the United States where the effect of a change in the tax wedge was found to be non-significant. More generally, other institutional factors may explain a grouping of countries with different unemployment records.
96. In no case, however, were the wedge or payroll taxes found to have a significant effect in the long term, suggesting that tax changes are ultimately absorbed by changes in take-home pay.
97. In fact, there is no clear evidence that the sacrifice ratio in the euro area is significantly higher than in the United States (see Turner and Seghezza, 1999). However, such estimates usually do not allow for potential non-linearities in the effect of unemployment on inflation (see below). In addition, the higher unemployment persistence in the euro area implies that the disinflation process takes place over a much longer time horizon. Finally, the higher degree of labour hoarding observed in the euro area in the past could still imply a significantly larger sacrifice ratio measured in terms of output rather than unemployment.
98. This is also consistent with the observation that the proportion of unemployed facing long-term unemployment is generally more important in countries with a high NAIRU. Although it is difficult to find robust empirical evidence of hysteresis, the policy implications may not be that different if the adjustment is sufficiently slow that seven to ten years are needed for unemployment to fully revert to its initial equilibrium following a shock.
99. See for instance, Clark *et al.* (1995, 1996), Debelle and Laxton (1996) and Turner (1995) for evidence of non-liearities in the G-7 countries. Looking also at the evidence from the inflation-unemployment trade-off, Giorno *et al.* (1997) found evidence of asymmetric hysteresis in the case of Germany, France and Italy, *i.e.* a tendency for recessions to lead to persistently higher unemployment but for excess demand to generate only temporary employment gains and higher inflation. Non-linearity at low inflation rates is generally explained by the stronger resistance of workers to nominal than real wage declines (see Akerlof *et al.* (1996), for a theoretical exposition and Wilson (1999) for recent empirical evidence from United States data).
100. Assuming an efficient conduct of monetary policy in the past, Cecchetti and McConnell (1998) estimated on the basis of the variances observed since the mid-1980s the relative weight put on inflation and output in the monetary policy loss

function of a number of European countries. They find that while the slopes of the variability trade-offs vary quite dramatically across countries, the objective functions are not that different. Most countries are found to have weights of about of three quarters on inflation variability and one-quarter on output variability, with the exceptions of Germany having a much higher weight on inflation variability and Belgium a much lower weight. Given the clear mandate for price stability and the relatively narrow bands for inflation fluctuations (see Chapter II), the ECB reaction function will likely put at least as high as weight on inflation variability as the Bundesbank did in the past, which could lead to relatively higher output fluctuations in the euro area.

101. In this respect, it is not sufficient to simply compare the variance of residuals from a Phillips curve and an aggregate demand equation to infer the relative size of shocks since both are correlated with each other as well as with other shocks.

102. The December 1999 *Monthly Bulletin* of the ECB mentions that the Eurosystem's monetary policy strategy would take labour and product market reforms into account (Box 1, p. 10).

103. The previous sub-section also distinguished between two types of monetary policy trade-offs: a short-term trade-off between the level of inflation and unemployment (or output) and a long-run trade-off between the variances of the same variables. Here, the discussion focuses on the short-term trade-off in levels of inflation and unemployment.

104. Although the empirical evidence for a non-linear trade-off is mixed overall, it may reflect the fact that both the non-linear and linear specifications of the trade-off are difficult to reject as basic assumptions. However, given the uncertainty, assuming a linear trade-off when it is truly non-linear could lead to first-order policy mistakes (Laxton *et al.,* 1993).

105. Demertzis and Hugues Hallett (1995*b*) also found a German wage leadership effect although nowhere near sufficiently important to offset the increase in the sacrifice ratio due to the unemployment dispersion. However, the German wage leadership hypothesis may be difficult to distinguish from the assumption that, for the core-ERM countries, monetary policy was conducted at the Bundesbank (see below in the text). Moreover, German wage leadership has not always implied overall wage discipline.

106. In fact, it is difficult to even find a significant gap effect in Italy, Austria and the Netherlands. In the case of Italy this could reflect the fact that the German unemployment gap is a better proxy for the gap in the Centre North of the country, which would be more relevant given the highly segmented nature of the Italian labour market.

107. In principle, it is more likely that German (or euro area-wide) unemployment has had an effect in addition to, rather than instead off the national gap. In practice, given the high collinearity between the alternative gap measures, it is difficult to find significant effects of both simultaneously. Evidently, the fact that German unemployment contributed to disinflation in other EMS countries says nothing about the sacrifice ratio in the latter since that depends on how domestic unemployment suffered from spillover effects of a monetary tightening in Germany. A look at simple regressions between domestic and German gaps suggests that relative to Germany the sacrifice ratio would have been higher in Belgium and the Netherlands but lower in France, Italy and Austria.

108. However, they acknowledged that these long-term gains might be quite slow to materialise, with the gains being much more modest in the short term (one per cent).

109. The budgetary situation of European Union Member States is discussed in Chapter III.

110. So far, there is no clear evidence that relative unit costs have been the primary determinant of business location. Based on a cross-country empirical analysis of the pattern of manufacturing activity, Haaland *et al.* (1999) found that in both years covered in their study (1985, 1992), the localisation of demand was still the main driving force behind economic geography in Europe.

111. This is not to say that high wage flexibility is better for everyone in all circumstances. For instance, wage stability may make workers feel more secure and raise their productivity (Saint-Paul, 2000). However, these benefits would presumably only prevail in the context of a stable economic environment, in which case even highly flexible wages could also be stable. Moreover, it is not entirely clear whether wage stability necessarily lowers workers' uncertainty regarding future income if it raises unemployment persistence.

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Glossary of acronyms

ALMP	Active Labour Market Policies
ATM	Automated Teller Machine
BIS	Bank for International Settlements
CAE	Conseil d'Analyse Économique
CCBM	Correspondent Central Banking Model
CPI	Consumer Price Index
ECB	European Central Bank
EMI	European Monetary Institute
EMU	Economic and Monetary Union
EONIA	Euro OverNight Index Average
EPL	Employment Protection Legislation
ERM	Exchange Rate Mechanism
ESA	European System of Accounts
ESCB	European System of Central Banks
ESFRC	European Shadow Financial Regulatory Committee
EU	European Union
GDP	Gross Domestic Product
GNP	Gross National Product
HICP	Harmonised Index of Consumer Prices
M&A	Mergers and Acquisitions
NAIRU	Non-Accelerating Inflation Rate of Unemployment
NAP	National Action Plan
NCB	National Central Bank
NUTs	Nomenclature of Territorial Units for Statistics
PMR	Product Market Regulations
PPP	Purchasing Power Parity
R&D	Research and Development
SGP	Stability and Growth Pact
SMP	Single Market Programme
SSS	Securities Settlement System
SVAR	Structural Vector Auto-Regression
TARGET	Trans-European Automated Real-time Gross settlement Express Transfer
VAR	Vector Auto-Regression
VAT	Value Added Tax
WTO	World Trade Organisation
Y2K	Year 2000
ZEI	Zentrum für Europäische Integrationsforschung

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Annex I

The machinery of policy-making

Economic policy-making in the European Union is increasingly co-ordinated – or even centralised, in the case of monetary policy in the euro area. The adoption of a common currency has of course necessitated the establishment of a single central bank but has also highlighted the importance of fiscal policy co-ordination (Figure A1). The Stability and Growth Pact, adopted in 1997, sets a legally binding overall framework for fiscal policy by making operational the Maastricht Treaty's provision on "excessive deficits" (see Box 4 in the previous EMU study). Multilateral surveillance efforts have also been stepped up in other fields. In late 1997, the co-ordination of employment policies was initiated, with Member States henceforth required to produce annual National Action Plans (see Box 12 in this study). In 1998, the process of monitoring product and capital market reforms was formalised, with Member States required to submit annual progress reports. In mid-1999, a Macroeconomic Dialogue framework was introduced, with a view to improve the growth and employment outcomes of the interaction between wage developments, fiscal management and monetary policy. It is intended as a new forum to exchange views, not as an additional mechanism for policy co-ordination. Broad economic policy guidelines are issued once a year subsuming the various aforementioned dimensions, with an increasing density of country-specific recommendations. Besides multilateral surveillance, a number of important economic competencies are centralised at the European Union level, notably as regards the single market, trade, competition, and agricultural policy (see Box 3 in the previous EMU study and Box 9 in the present one).

Institutionally, the political impulse for policy co-ordination is given by the Heads of State and Government, in the European Council (of which the President of the European Commission is a member as well), which formally approves the Broad Economic Policy Guidelines and the Employment Guidelines and is responsible for the general orientation of exchange rate policy. At the ministerial level, the Council of Economic and Finance Ministers (Ecofin) co-ordinates policies related to EMU and taxation. The ECB President is invited to Ecofin when matters relating to the ESCB are considered, while the Ecofin President, as well as a member of the Commission, may participate in meetings of the ECB Governing Council. Euro participants co-ordinate policies informally in the so-called Euro-11 Group in regular meetings, to which the ECB President can be, and has indeed been, invited. The Labour and Social Affairs Council is in charge of co-ordinating employment policies. In order to ensure consistency between the Employment Guidelines and the Broad Economic Policy Guidelines, joint meetings take place at the level of those two councils twice a year. Furthermore, the Macroeconomic Dialogue, in its deliberations at political level also brings together representatives of Ecofin and the Labour and Social Affairs Council as well as the ECB and the social partners. The main European employers' and employees' organisations are involved in the co-ordination process at ministerial level via the so-called European Social Dialogue.

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Figure A1. **Economic policy-making cycles**

Integrated policy	**Co-ordinated policies**					
Monetary policy	Fiscal policy	Product and capital markets	Employment policies	Overall economic policy	Macroeconomic Dialogue	
Maastricht Treaty	*Maastricht Treaty, Stability and Growth Pact*	*Cardiff European Council decision*	*Amsterdam Treaty and Cologne European Council decision*	*Maastricht and Amsterdam treaties*	*Cologne European Council decision*	← *Governed by*
						Time frame for co-ordination
ECB Governing Council meeting twice a month	Stability/convergence programmes: examination by Commission and Economic and Financial Committee, possibly Council opinion	Commission report on structural policies				January-February
	Member States submit budget data	Economic policy committee undertakes multilateral review of economic reforms on the basis of Member States' progress reports				
Publication of a monthly bulletin around mid-month			Member States present National Employment Action Plans (NAPs)	Commission presents draft Broad guidelines and Spring forecasts	Spring macroeconomic dialogue meeting	March-April
Hearings before the European Parliament's Economic and Monetary Affairs Committee every quarter at least				Draft Broad Guidelines adopted by Ecofin		May

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Presentation of the ECB's Annual Report to the European Parliament once a year			NAPs: implementation reports and update	European Council discusses a conclusion on the Broad Guidelines		June
	Monitoring budget execution			Ecofin adopts Broad Guidelines in accordance with the conclusion		July
	Member States submit budget data		Commission presents draft joint Employment Report and Guidelines			August
			Joint Employment Report	Commission presents Autumn forecasts	Autumn macroeconomic dialogue meeting	September-November
	Stability/convergence programmes: submission	Progress reports by Member States and the Commission	Modifications to the Employment Guidelines endorsed by the European Council	Annual Review of the EU Economy presented by the Commission		End-year

Source: Italianer (1999) and OECD Secretariat.

At the level of the administrations, co-ordination takes place in a variety of fora. The Economic and Financial Committee (ex-Monetary Committee) brings together top officials of the ministries of finance and central banks to prepare Ecofin as well as Euro-11 Group meetings. The Economic Policy Committee, where representatives of ministries of finance and economics meet, focuses mainly on structural policies. The Employment Committee (ex-Employment and Labour Market Committee) deals with labour market policies. Banking supervision is co-ordinated in the European Community's Banking Advisory Committee and in the ECB's Banking Supervision Committee. Other co-ordination bodies include the Committee for Monetary, Financial and Balance of Payments Statistics and the more recently created Code of Conduct Group on Business Taxation as well as a plethora of more specialised working groups. The Commission is of course represented at all these meetings.[1]

As regards the functioning of the Commission itself, its new President has greater powers than his predecessor, including a greater say in the choice of commissioners and the authority to reshuffle portfolio responsibilities during the Commission's mandate and to remove a commissioner from office. The Commission now has two vice-presidents, in charge respectively of relations with the European Parliament (reflecting the latter's enhanced role) and of the internal overhaul of the Commission (a far-reaching blueprint for reform is to be ready in early 2000). The number of departments has been cut from 42 to 36, notwithstanding the creation of several new ones.

Ahead of enlargement, an Intergovernmental Conference is to be convened in the year 2000 to resolve the institutional issues left open in the Amsterdam Treaty. Those include the size and composition of the Commission, the weighting of votes in the Council and the possible extension of qualified-majority voting in the Council.[2] A limited number of other issues related to the proper functioning of the Union's institutions in view of enlargement might also be included in the agenda. The Union has committed to make every effort to complete the Conference by December 2000, to be followed by ratification.

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Annex II

Enlargement

One of the main challenges facing the European Union is the envisaged widening of its membership, mainly to include a number of central European countries (of which three are already OECD Members). Agreement on the principle of enlargement was reached in 1993, and in 1998 formal accession negotiations started for Cyprus, the Czech Republic, Estonia, Hungary, Poland and Slovenia. In the wake of the Kosovo crisis, the European Commission in October 1999 proposed to open such negotiations for Latvia, Lithuania, Malta, and Slovakia, and, on a conditional basis,[3] for Bulgaria and Romania. The Commission also proposed to consider Turkey as a candidate, and to confirm the vocation for membership of countries of former Yugoslavia and Albania, albeit under strict conditions (including mutual border recognition, settlement of all issues related to the treatment of national minorities and regional economic integration). It emphasised that negotiations would follow a differentiated approach, since preparedness varies a lot across countries and areas. This would allow for the possibility for those starting negotiations in 2000 to catch up with the "first wave" countries. The December 1999 Helsinki Council agreed to consider all 13 candidate states within a single accession framework, and to convene bilateral intergovernmental conferences in February 2000 to start negotiations with Bulgaria, Latvia, Lithuania, Malta, Romania and Slovakia.

Readiness for accession is assessed on the basis of political and economic criteria. Applicants are required to have stable government institutions guaranteeing democracy, rule of law, and human rights; to have market-based economies capable of withstanding competitive pressure and market forces within the European Union; and to take on European Union membership obligations, including the adoption, implementation, and enforcement of the broad-ranging *acquis communautaire*. The requirements are divided into 31 categories.[4] Some do not call for lengthy negotiations, as they can be met with simple, technical measures, but others are so exacting that transition periods for the new members are being considered. This is particularly the case for agriculture, where first-order social changes are implied, as well as for infrastructure and the environment, where massive investments may be needed. Progress as regards the capacity to implement the *acquis* is monitored in an annual report submitted by the Commission to the Council.

Absorbing extra Members with very different economic characteristics (Table A1) also calls for far-reaching reforms of the existing European Union decision-making processes and policies (notably the common agricultural policy). Some steps have been taken in 1999 in this direction, in the context of the agreement on the financial framework for 2000-06 (see Box 7), but further changes will be needed, in particular on the institutional front (see Annex I).

Table A1. **EU accession candidates**

Data as of 1998 unless noted

	Area (thousands of km²)	Population (in millions)	Male life expectancy (years)	Per capita GDP at PPP in per cent of EU average	Per cent share of agriculture		Share of trade with EU (in per cent of total trade)		Emissions of carbon dioxide (tons per head)
					in gross value added	in employment	Exports	Imports	
Cyprus	9	0.7	75.0[1]	78[1]	4.6	9.6	50	62	..
Czech Republic	79	10.3	71.1	60	4.5	5.5	64	63	12.9[2]
Estonia	45	1.4	64.8	36	6.2	9.1	55	60	14.6[2]
Hungary	93	10.1	66.4[1]	49	5.9[1]	7.5	73	64	6.3[2]
Poland	313	38.7	68.9	39	4.8	19.1	68	66	9.7[2]
Slovenia	20	2.0	71.1	68	3.9	11.5	66	69	7.8[1]
Bulgaria	111	8.2	67.1[1]	23	21.1	25.7	50	45	7.5
Latvia	65	2.4	63.8	27	4.7	18.8	57	55	4.4[2]
Lithuania	65	3.7	65.9[1]	31	10.1	21.0	38	50	5.1[1]
Malta	0.3	0.4	74.4	n.a.	2.8	1.8	53	69	..
Romania	238	22.5	65.5	27	17.6	40.0	65	58	4.7[1]
Slovakia	49	5.4	68.6	46	4.6	8.2	56	50	8.4[1]
Turkey	775	63.5	66.5	37	16.1	42.3	50	52	..
Memorandum item:									
EU15	3 191	374.9	74.0	100	2.3[2]	5.2[1]	63[3]	62[3]	8.2[4]

1. 1997.
2. 1996.
3. Share of intra-EU flows in total EU flows.
4. 1995.

Source: Eurostat, national statistical offices.

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Annex III

The mergers and acquisitions boom

Over the past two years, mergers and acquisitions (M&A) activity involving European firms has soared to new historical highs, within and even more so across borders (Figure A2). Consistent with the growing number of press reports about "mega-mergers", the average M&A size has increased significantly for all four types of mergers: between firms based in the same European Union country, *i.e.* "national transactions" (from $43 million in 1997 to $63 million in the first half of 1999); between firms in different European Union countries, *i.e.* "Community operations" (from $63 million to $90 million); for acquisitions by non-European Union firms of European Union firms (from $57 million to $91 million); and for acquisitions of non-European Union firms by European Union ones (from $58 million to $174 million). The increase in the number of deals has been particularly pronounced in the smaller countries, perhaps reflecting a greater urge to reach a critical European size for companies traditionally operating in smaller markets, and in Italy, reflecting a catch-up with the larger European Union countries. By the first half of 1999, the total number of cross-border mergers (including those involving non-European Union firms) had almost caught up with those taking place within national borders, contrasting with the more parochial pattern of the early 1990s, when the latter were about twice as numerous as the former. In sectoral terms, the M&A boom was particularly pronounced in services, notably in banking and in several heretofore state monopoly network sectors. As regards deals involving non-European Union firms, the United States heads the list of both bidders and targets.[5]

Notwithstanding the hype that tends to accompany many of the M&A deals, it is difficult to evaluate the associated welfare gains. In some cases, economies of scale and scope are clearly in the offing, and a more efficient organisation of production can be growth-enhancing and benefit both firms and consumers. In a fair number of other cases, M&A operations are driven by the desire to increase market power and possibly to engage in geographical price discrimination, thus frustrating rather than fostering integration.

Under the 1989 Merger Regulation, large cross-border deals must be notified for approval to the Commission's Competition Directorate. In recent years, the latter has played an increasingly important role, assessing the impact of the envisaged operations and amending the terms of or, in a few cases, even vetoing those that it considers to threaten competition (Table A2). However, the sharp increase in the number of mergers has increased its caseload beyond its administrative capacity, even as many of the notified cases are unlikely to raise competition problems. Therefore, notification procedures have started to be streamlined and the Commission has proposed a measure of devolution of regulatory responsibility in this field, so as to allow it to concentrate its efforts on the most important cases (EC, 1999*d*).

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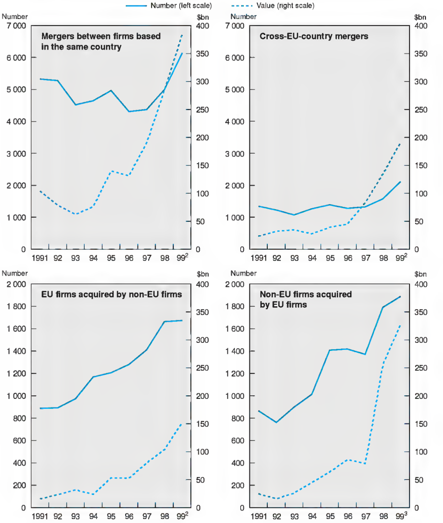
Figure A2. **M&A activity**

EU15, number of deals and current $[1]



1. Failed and lapsed deals excluded.
2. First half of the year annualised.
3. First eight months of the year annualised.

Source: Thomson Financial Securities Data.

Table A2. **Notifications and decisions under the Merger Regulation**

Number of cases[1]

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999 first 10 months
Cases notified	**12**	**63**	**60**	**58**	**95**	**110**	**131**	**172**	**235**	**232**
Notifications withdrawn	0	0	3	2	6	4	6	9	9	10
Cases on which a final decision was taken	**7**	**60**	**61**	**57**	**91**	**109**	**125**	**142**	**238**	**214**
Cases deemed outside the scope of the Regulation	2	5	9	4	5	9	6	4	6	0
Cases cleared after investigations (Phase 1)										
Without undertakings	5	47	43	49	78	90	109	118	207	185
With undertakings	0	3	4	0	2	3	0	2	12	18
Cases referred to national authorities	0	0	1	1	1	0	3	7	4	4
Clearance after further investigations (Phase 2)										
Without undertakings	0	1	1	1	2	2	1	1	2	0
With undertakings	0	3	3	2	2	3	3	7	5	6
Prohibition	0	1	0	0	1	2	3	1	2	1
Restore effective competition								2	0	0

1. Notifications and decisions do not always take place in the same year.

Source: European Commission.

Annex IV

Institutions and the transmission mechanism: analytical framework

This annex provides an analytical framework that characterises some of the market interactions discussed in the main text. Although the combined influence of the multitude of institutional features is too complex to be fully articulated within a simple framework, a system of relationships characterising the behaviour of wage and price setters can nevertheless be useful to illustrate how these features interact with different types of shocks to affect labour and product market performance. The purpose is to have a framework that is sufficiently general and flexible to capture the most significant institutional characteristics of the wage and price setting mechanisms while being sufficiently simple to remain intuitively accessible and analytically tractable.

The framework used to illustrate the behaviour of firms and workers operating in imperfectly competitive labour and product markets is based on the system of wage and price-setting equations popularised by Layard *et al.* (1991) and used in previous OECD work (OECD, 1999*c*). The system is extended relative to the latter applications, in particular to include more general dynamic adjustment in the wage and price-setting functions so as to distinguish between the impact of different shocks in the short run, when capital is treated as fixed, and in the longer run, when firms can adjust factor proportions in order to restore profitability.

Even though the set of equations could be formally derived from a theoretical model of profit maximisation and wage bargaining, there is always room for arbitrariness and many aspects of the specification have been deliberately chosen to reflect the most intuitively appealing or empirically plausible assumptions in the context of European Union labour and product markets.

i) Price-setting or labour demand function

The objective of individual firms is to set prices and choose quantities of labour and capital that will maximise their revenues given the expected demand for the goods produced at the chosen price. The price-setting relation is usually expressed as a mark-up of the price over wage costs:

$$\begin{aligned} p_t - w_t = {} & \alpha_0(1-\alpha_1) + \alpha_1(p_{t-1} - w_{t-1}) - (1-\alpha_1)pr_{t-1} + (1-\alpha_1)\, wtax_{t-1} \\ & + (1-\alpha_1)\alpha_3 q_{t-1} + \alpha_5 \Delta n_t + Z_t^p \qquad [1\text{-}a] \end{aligned}$$

where p_t and w_t are the producer's price and wage levels (in logs), pr_t is the level of technical progress or productivity, $wtax_{t-1}$ are payroll taxes paid by employers, q_t is the cost of capital, n_t is the level of employment and Z_t^p is introduced to capture various shocks affecting the aggregate price level.

The equation is expressed in partial adjustment terms with the parameter α_1 reflecting the degree of persistence in the mark-up adjustment process. This can be interpreted as an indication of the capacity of the firm to absorb any deviation from its long-run labour demand via a short-term (cyclical) adjustment in the price mark-up. Viewed from a different angle, it provides an indication of the firm's capacity to hoard labour while being able to cope with competition.

The parameter α_0 reflects the size of the mark-up in the long run and can thus be interpreted as an indication of the underlying degree of competition prevailing in the market for goods and services. The parameter α_3 measures the long-run effect of the cost of capital on the real wage and is essentially determined by the parameters of the production function, for instance the relative share of labour and capital if technology is characterised by a simple Cobb-Douglas function. Finally, the parameter α_5 measures the sensitivity of the mark-up to short-term labour market conditions as expressed by the change in employment. The long-run equilibrium labour demand or price-setting function is given by:

$$p_t - w_t = \alpha_0 + wtax_t - pr_t + \alpha_3 q_t \qquad [1\text{-}b]$$

Even under imperfect competition, the level of wage compensation (including payroll taxes) that firms can afford to give in the long run is thus determined by the trend level of labour productivity, the cost of capital and the degree of competitiveness in the product market (α_0). In particular, it does not depend on the level of employment (or unemployment). This property of a *horizontal* long-run labour demand function comes out of a profit maximising behaviour under the assumptions of endogenous capital adjustment, constant returns to scale technology and homogeneous labour. The intuition is that if a firm operates in a way that leads to persistent deviations from cost minimisation, either profitability will be too low to maintain investors' interest or the selling price will have to be set too high to attract sufficient demand.[6]

The mechanism can be illustrated with the example of a wage-push shock. With capital being fixed in the short run, a sustained increase in real wages beyond productivity gains comes at the expense of the profit rate. While a drop in profit rates can be temporarily absorbed, it generates over time two types of dynamic adjustments in the business sector. First, the increase in relative labour costs lead to a desired shift in factor proportions in favour of capital. Second, the decline in profitability slows the pace of capital accumulation, which further reduces labour demand. In the context of a production technology characterised by constant returns to scale, the adjustment process goes on until the real wage returns to a level consistent with productivity. Thus, any attempt by employees to push wages beyond productivity will benefit them in the short term but will likely lead to permanently lower employment and ultimately to a return, *ceteris paribus*, of the productivity-adjusted real wage to its initial level in the long run (Blanchard, 1998*a*).

ii) Wage-setting function

In this framework, workers are generally assumed to bargain for the highest level of take-home wage while minimising the risk of being laid off. Although there is a multitude of ways to characterise this trade-off between wage conditions and jobs security, the key factors having an influence on the bargaining strategy are the market power of employees (degree of unionisation), the expected level of income (benefits) received outside the labour market, the probability for employees to quickly find another job if laid off and the pressure that the outsiders (unemployed) can exert on insiders' (employees) wage determination. The key characteristics of the wage-setting mechanism can be illustrated using the following relationship:

$$w_t - [\beta_6 p_t^e + (1 - \beta_6)p_t] = \beta_0(1 - \beta_1) + \beta_1(w_{t-1} - p_{t-1}) + (1 - \beta_1)pr_{t-1} - \beta_1 \Delta pr_{t-1} - (1 - \beta_1)\beta_2 wtax_{t-1}$$
$$- (1 - \beta_1)\beta_3 q_{t-1} - (1 - \beta_1)\beta_4 U_t - \beta_5 \Delta U_t + \beta_1 ytax_{t-1} + \beta_1(pc_t - p_t) + (1 - \beta_1)Z_t^w \qquad [2\text{-}a]$$

where U is the unemployment rate, Δpr_t is the growth rate of productivity and Z_t^w captures all the income support measures or benefits that a worker can get if unemployed.[7] The variables $ytax_t$ and $pc_t - p_t$ reflect the income tax and the differential between log consumption and producer prices, respectively. Both are introduced to capture the fact that what matters from an employee's well-being perspective is the purchasing power of his after-tax income in terms of consumer goods and services. Since the consumption price is a weighted average of domestic and import price, the latter term can be re-written in terms of the real exchange rate:

$$pc_t - p_t = -\lambda\ rexr_t$$

where $rexr_t$ is the real exchange rate and the parameter λ reflects the proportion of foreign goods in the domestic consumer's basket.

As in the case of the price-setting equation, the parameter β_1 captures the degree of persistence in the adjustment of real wages and can be interpreted as a measure of the degree of real wage resistance that workers can offer in the face of downward wage pressures. Given that the influence of some of the variables such as productivity growth, taxes and terms-of-trade on real wage bargaining depends ultimately on the willingness and capacity of employees to resist to a downward adjustment in their after-tax wage compensations, they are introduced with the same coefficient β_1 giving this parameter a fundamental role in the transmission of shocks to equilibrium unemployment. The parameters β_2 and β_3 capture respectively the long-run effect of the payroll tax and the cost of capital in the wage-setting equation.

The parameter β_4 measures the long-run elasticity of real wages to the unemployment rate and is commonly interpreted as the degree of (long-run) real wage flexibility. The parameter β_5 captures the notion that the workers' willingness to push for higher wages depends not only on the level of unemployment but on whether the unemployment rate is rising or falling in the short term (Layard *et al.*,1991.) Finally, β_6 reflects the degree of adjustment of the nominal wage to the expected price level (p_t^e) and is typically interpreted as providing a measure of nominal wage rigidity. The intuition is that to the extent wages can not be adjusted swiftly to prices due to adjustment costs or the existence of contracts, they will be set on the basis of future expected prices (Nickell, 1998).

One important feature to underscore is that all the determinants of the price-setting equation also appear in the wage-setting relationship. This is consistent with the "right-to-manage" approach whereby wages are jointly set by firms and unions as a result of the bargaining process but whereby firm managers alone decide on the level of employment, output and prices once a wage agreement has been reached. As long as unions put at least some weight on the potential employment consequences of bidding for a certain wage rate, they will take into account the firm's cost minimisation constraint and, as a consequence, all the factors affecting the firm's profitability conditions will implicitly have some influence on the employee's bargaining position.

To some extent, the respective degrees of real wage resistance (β_1) and persistence in unemployment (β_5) will depend on whether the union puts more weight on pushing for higher real wages or on preserving its members' jobs. For instance, in an extreme case where the union's sole objective is to keep the level of employment in the firm unchanged, then its strategy will be to continuously adapt wage claims so as to maintain the firm's profitability while keeping employment virtually constant. At the other extreme, a union may represent the members least facing a risk of losing their job and who bargain for the highest real wage possible with less concern for the more vulnerable employees. While the market power of the union may be the same in both situations, the former case will be consistent with low real wage resistance (β_1) and high unemployment persistence (β_5) and *vice versa* in the latter case.

In long run equilibrium with stable unemployment and inflation consistent with expectations, the wage-setting function simplifies to:

$$w_t - p_t = \beta_0 + pr_t - \beta_2 wtax_t - \beta_3 q_t - \beta_4 U_t + \frac{\beta_1}{1 - \beta_1}(ytax_t - \lambda rexr_t - \Delta pr_t) + Z_t^w \qquad [2\text{-}b]$$

The long-run wage-setting function is a downward sloping relation between the real wage and the unemployment rate with the slope determined by the sensitivity of the real wage to the pressures exerted by the unemployed – the degree of real wage rigidity.

iii) Labour supply function

The supply side of the model is completed with a relationship describing the decision to participate in the labour force or a labour supply function:

$$l_t = \delta_0 - \delta_1 U_t + Z_t^l \qquad [3]$$

where l_t represents the labour force and Z_t^l captures shocks to the labour force participation rate. For simplicity, the decision to join the labour force is assumed to be independent from the real wage but the influence of market conditions is captured via the unemployment rate, which reflects a discouragement effect on workers potentially looking for a job. Labour supply is thus assumed to be wage-inelastic.

iv) Labour market equilibrium

In order to solve the system for equilibrium unemployment, the labour force participation equation is first substituted in the price-setting relationship to give:

$$\begin{aligned} p_t - w_t = {} & \alpha_0(1 - \alpha_1) + \alpha_1(p_{t-1} - w_{t-1}) - (1 - \alpha_1)pr_{t-1} + (1 - \alpha_1)\, wtax_{t-1} \\ & + (1 - \alpha_1)\alpha_3 q_{t-1} - \alpha_5(1 + \delta_1)\Delta U_t + \alpha_5 \Delta Z_t^l + Z_t^p \qquad [1\text{-}a]' \end{aligned}$$

For convenience, the two equations (1-*a*)' and (2-*a*) can be re-written in error-correction form by subtracting $p_{t-1} - w_{t-1}$ on both sides of (1-*a*)' and $w_{t-1} - [\beta_6 p_t - (1 - \beta_6)p_{t-1}]$ on both sides of (2-*a*). In a subsequent step, $\beta_6 \Delta p_t$ is subtracted from both sides of (2-*a*) to yield:

price-setting:

$$\begin{aligned} \Delta p_t - \Delta w_t = {} & \alpha_0(1 - \alpha_1) + (\alpha_1 - 1)(p_{t-1} - w_{t-1} + pr_{t-1}) + (1 - \alpha_1)wtax_{t-1} \\ & + (1 - \alpha_1)\, \alpha_3 q_{t-1} - \alpha_5(1 + \delta_1)\Delta U_t + \alpha_5 \Delta Z_t^l + Z_t^p \qquad [1\text{-}c] \end{aligned}$$

wage-setting:

$$\begin{aligned}\Delta w_t - \Delta p_t = {} & \beta_0(1 - \beta_1) + (\beta_1 - 1)(w_{t-1} - p_{t-1} - pr_{t-1}) - \beta_1 \Delta pr_{t-1} \\ & - (1 - \beta_1)\beta_2 wtax_{t-1} - (1 - \beta_1)\beta_3 q_{t-1} - (1 - \beta_1)\beta_4 U_t - \beta_5 \Delta U_t \\ & - \beta_6(\Delta p_t - \Delta p_t^e) - \beta_1 ytax_{t-1} - \beta_1 \lambda rexr_t + (1 - \beta_1)Z_t^w \qquad [2\text{-}c]\end{aligned}$$

The unemployment rate consistent with labour market equilibrium is obtained at the point where the level of the real wage in the price and wage-setting functions is equalised. The gradual adjustment of real wages over time allows for the definition of a long-term and a short-term concept of equilibrium unemployment rates. The long-run concept is defined in the absence of shocks and after the dynamic adjustment of the system is completed. Accordingly, the long-term equilibrium unemployment rate, or natural rate, is derived under the assumption that real wages grow at a constant rate equal to the rate of productivity growth, unemployment is constant, inflation expectations are realised and there are no random shocks. Algebraically, it is obtained by combining (1-*b*) and (2*b*) and eliminating the real wage.

Long-run equilibrium unemployment or natural rate:

$$U_t^{nat} = \frac{1}{\beta_4}\left[\beta_0 + \alpha_0 + (1 - \beta_2)wtax_t + (\alpha_3 - \beta_3)q_t + \frac{\beta_1}{(1 - \beta_1)}(ytax_t - \lambda rexr_t - \Delta pr_t) + Z_t^w\right] \qquad [4]$$

According to equation (4), increases in payroll or income taxes, foreign prices, unemployment benefits (or other factors affecting the reservation wage), the cost of capital and the price mark-up as well as a productivity slowdown may contribute to raise the long-run equilibrium rate of unemployment. The higher the degree of real wage rigidity (smaller β_4) the more sensitive the natural rate will be to changes in any of these factors. Likewise, the higher the degree of real wage resistance by employees (higher β_1), the stronger will be the effect of a change in income taxes, terms-of-trade or productivity growth. As for the influence of payroll taxes and the cost of capital, it depends on the extent to which their long-term effect on the real wage differs in the wage and price setting functions. Although ultimately this is an empirical matter, the common view is that the effect of the cost of capital on the natural rate is likely to be small whereas the influence of payroll taxes is believed to be significantly more important in many countries.[8]

A short-run labour market equilibrium can also be defined at the point where the short-term wage-setting and price-setting functions cross each other. This equilibrium can be expressed as a trade-off between inflation and unemployment, and interpreted as a Phillips curve. This is obtained by combining (1-*c*) and (2-*c*) and solving for the inflation expectation error term.

Inflation-unemployment trade-off:

$$\begin{aligned}\Delta p_t - \Delta p_t^e = \frac{1}{\beta_6}\Big[& -(1 - \beta_1)\,\beta_4(U_t - U_t^{nat}) - (\beta_5 + \alpha_5(1 + \delta_1))\,\Delta U_t + (\beta_1 - \alpha_1)\,LRLD_{t-1} \\ & + \alpha_5 \Delta Z_t^l + Z_t^p\Big] \qquad [5]\end{aligned}$$

where *LRLD* stands for the long-run price-setting or labour demand function (equation 1-*b*):

$$LRLD_t = \alpha_0 + w_t - p_t - pr_t + wtax_t + \alpha_3 q_t$$

Equation (5) is similar to a standard Phillips curve except that it includes an extra term (LRLD) that captures the deviation of the labour demand function from its (horizontal) long run level, or if one abstracts from the cost of capital, the deviation of the labour share from its long run level (Blanchard and Katz, 1997). Hence, this term may play a significant role in particular in countries where significant and persistent movements in the labour share have been observed, although only if the speed of mark-up adjustment (α_1) differs significantly from that of real wage adjustment (β_1).[9]

The short-term equilibrium unemployment rate, or NAIRU, corresponds to the point where both the labour and product markets are in short-run equilibrium. Since the inflation-unemployment trade-off relationship already characterises a short-run equilibrium in the labour market, the NAIRU is defined at the point where inflation expectations are fulfilled and the rate of inflation is constant ($\Delta p_t - \Delta p_t^e = 0$).

NAIRU:

$$U_t^{nairu} = \theta_1 U_t^{nat} + (1 - \theta_1) U_{t-1} + \frac{(\beta_1 - \alpha_1)}{\theta_2} LRLD_{t-1} + \frac{\alpha_5}{\theta_2} \Delta Z_t^l + \frac{1}{\theta_2} Z_t^p \qquad [6]$$

$$\text{where } \theta_1 = \frac{(1 - \beta_1)\beta_4}{\theta_2} \text{ and } \theta_2 = (1 - \beta_1)\beta_4 + [\beta_5 + \alpha_5(1 + \delta_1)]$$

According to this result, even when the unemployment rate level is above its natural rate there may be little or no downward pressures on inflation if unemployment is falling too rapidly and/or if there is a positive gap between the real wage level and productivity. The NAIRU can be more or less persistent depending on whether it is the *level* or the *change* in employment that has the strongest influence on the determination of real wages and mark-ups. In the extreme case where only the change matters in both price and wage-setting relations, a situation referred to as full labour market hysteresis, the unemployment rate shows little or no tendency to revert towards its natural rate following a shock ($\theta_1 = 0$).

Notice that the extent to which deviations from the long-run labour demand lead to a rise in the NAIRU depends not only on the degree of wage resistance (β_1) but also on the capacity of the firm to absorb such deviations in the short run without incurring financial difficulties (α_1). The latter may depend in turn on the intensity of competition in the short-run and the average size of the mark-up (α_0). For instance, a lower degree of competition, which can be reflected in a sizeable mark-up, may well lead to a higher natural rate, and hence to a higher NAIRU, but may also allow firms to hoard labour more easily in the short run and thereby contribute to stabilise unemployment. Conversely, structural reforms that increase the intensity of product market competition (lower α_0 and α_1) but leave labour market institutions unchanged (β_1) may lower the unemployment rate but also make it more volatile by forcing firms to adjust labour promptly in response to a change in profit conditions.[10]

Annex V

Institutions and structural policies

The OECD *Jobs Strategy*, published in 1994, is perhaps the most comprehensive survey of what is known about the role of labour and product market institutions in shaping overall employment and unemployment outcomes. This Annex attempts to summarise major aspects of this work. The various market institutions and policies can be regrouped into two broad categories: the tax and benefit system (unemployment support and tax wedge), which largely affects incentives both to hire and to take up work and work effort, while the regulatory environment (both labour and product market regulation) influences mainly, albeit not exclusively, the strength of competition (respective market power of different groups of firms and workers). Some of the structural policies, such as the minimum wage or the generosity of the out-of-work benefits relative to in-work net income have a direct impact on structural unemployment by either imposing a wage floor or by raising workers' reservation wage. For many institutions and policies, however, the main impact on employment is rather indirect, operating via their combined effects on the factors having an influence on the slopes of the wage and price-setting relationships, in particular on the size of the price mark-up, the speed of real wage adjustment and (un-)employment persistence (see Annex IV). Together, these factors condition the overall market environment and play a key role in the propagation of exogenous and macro policy shocks.

Taxes and benefits

Unemployment benefits can adversely affect equilibrium employment in the short and long run in various ways. First, more generous benefits in the form of higher replacement rates increase the reservation wage and lower the distance between wages at the bottom of the scale and the income received on unemployment support (potentially leading to a so-called unemployment trap). If wages do not adjust upward, benefits have a direct effect on employment by lowering the incentives to take-up jobs; and, if wages do adjust, demand for labour is curtailed, increasing unemployment. Second, more generous income-support, especially if combined with a lengthy coverage period, makes employees somewhat less fearful of the consequence of being laid off and hence contributes to lower the speed of real wage adjustment (or raises real wage resistance in the face of adverse shocks). Finally, a lengthy coverage period will tend to reduce the exit rate from unemployment and thereby make the average unemployment spell last longer, reducing the overall wage sensitivity to the level of unemployment (lower real wage flexibility).

The proportion of the working revenue that can be replaced by unemployment benefits – the replacement rate – varies according to the duration of unemployment, the family and income situation and the wage level. In addition, a distinction can be made between pre-tax (gross) and net replacement rates, which also include social income support.[11]

Average net replacement rates are relatively high in the Netherlands, Sweden and Finland and below the (low) United States levels in Italy, Greece and Belgium (Table 9). Even though the positive link between the generosity of unemployment benefits and structural unemployment seems to be one of the most robust results in the empirical literature (Table A3), few countries have significantly changed the replacement rates and the duration of benefits during the 1990s (OECD, 1999*c*).[12]

In order to offset the adverse effects of unemployment benefits on work incentives and to prevent the development of long-term unemployment, several countries make unemployment benefit payment conditional on the acceptance of a job or enrolling in some form of vocational training programmes. Sweden, Denmark, Ireland and the Netherlands are the countries that spend the most on active labour market policies (ALMP) with a percentage of GDP above 1.6 per cent (Table 9). However, the success of ALMPs in lowering structural unemployment depends a lot on their cost efficiency since the benefits in terms of improving the effectiveness of the unemployed to fill vacancies may be offset by the adverse effect of raising taxes to finance them.[13]

An increase in payroll or income taxes drives a wedge between the wage paid by the employers and the take-home pay of employees. In a wage bargaining framework, each side will try to make the other bear the brunt of the burden regardless of whether the tax is initially imposed on the employer's payroll or on the worker's labour income. In this regard, the transmission mechanism of a change in the tax wedge to equilibrium employment in the long run is similar to that of an oil price shock or a wage-push shock as described in the main text. Hence, the size of the wedge alone is not sufficient to determine how large an effect it will bave on unemployment and output. The degree of employees' wage resistance (as reflected in the speed of adjustment of real wages), the capacity of the unemployed to exert moderation on real wage increases and the intensity of product market competition (size of mark-up) play a key role in this regard.

European Union countries can be divided into a group with high taxes on labour (Belgium, Austria, Italy and Scandinavia) and a relatively low tax group (United Kingdom, Ireland and the Netherlands) with Germany, France and Spain falling in between. In several cases, the wedge has risen sharply from the mid-1970s to the mid-1980s, but has fallen somewhat until the early to mid-1990s. It has risen again recently in some countries (Figure A3). The key empirical implication is that for the tax wedge to have a significant effect on the unemployment rate in the medium and long run, it should also impact strongly, albeit temporarily, on labour costs.[14]

Labour market regulation and the wage bargaining system

The regulatory environment frames the code of conduct governing agents' market transactions. On labour markets, it encompasses the relationship between employers and employees, including employment protection legislation (EPL), working time, health and safety conditions in the workplace (social charter) and minimum wage norms.

There are several channels by which stringent EPL can affect structural unemployment. By raising the cost of dismissal it reduces the incidence of lay-offs and hence the flow into unemployment. On the other hand, EPL makes firms more selective in their hiring process, making it harder for the unemployed to re-enter the labour market. The net direct effect of EPL on unemployment is thus ambiguous, especially if the potential benefits in terms of employees' commitments to the firm and long-term productivity are taken into account (OECD, 1999*b*).[15]

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Table A3. **Synopsis of studies on the link between institutions and performance**

Studies	Method and sample	Dependent variables	Institutional variables	Key results/comments
Labour market performance: Reduced-form unemployment or employment equations[1]				
Nickell and Layard(1998)	Pooled regressions based on average values for two sub-samples: 1983-88 and 1989-94	**Log UNR: total,** long-term and short-term	**WEDGE**, EPL, **UDENS, UCOV, COOR, RR, BDUR, ALMP, HOOR**	– Only WEDGE, EPL, COORD and HOOR affect total E/POP ratio
Nickell (1997)	20 countries: GLS (generalised least squares) random effect	E/POP ratio: tot. working age, males 24-54 and total hrs/pop.		– EPL raises long-term but not total unemployment
Elmeskov, Martin and Scarpetta (1998)	Pooled (static) regression over 1983-95: 19 OECD countries GLS random effect	**Total UNR**	**WEDGE, EPL,** UDENS, CENT, **COOR, (CORP), UB,** ALMP, MWAGE	– ALMP significant only if Sweden excluded – EPL more significant when combined with UB or intermediate CORP
Scarpetta (1996)	Pooled (static and dynamic) regression over the 1983-93 period: 17 OECD countries GLS random effect	**UNR: Total,** youth and long-term	WEDGE, **EPL,** UDENS, **CENT, COOR ,** UB, **ALMP,** MWAGE, **OPEN, TRESTR,** TERMS, IRLR	– Significant effect on total unemployment in bold
		Non-employment rate		– UB, EPL , UDENS, CENTR and COOR affect also the persistence of unemployment
Nicoletti, Haffner, Nickell, Scarpetta, Zocga (1999)	Pooled (static) regression over the 1982-95 period: 19 OECD countries GLS random effect	**Non-agriculture E/POP ratio**	**WEDGE, EPL, UDENS, CORP, UB,** PMR	– WEDGE and EPL only significant at the 10% level; – EPL significant in service but not in manufacturing and total
	Effect of PMR on country-specific effects is tested in second step	Self-employment: total economy, manufacturing, services	GDP/POP, comp. of value added, **share of agr.**, EPL, PMR	– All the regressors except EPL are time-varying
Blanchard and Wolfers (1999)	Pooled (static) regression over the 1960-95 period: Non-linear LS Time periods are 5 year averages	**Total UNR**	**WEDGE, EPL, UDENS,** UCOV, **COOR, RR, BDUR, ALMP**	– Results reported for specification that includes all variables simultaneously;
		Two specifications: fixed and time-varying RR and EPL		– Union coverage significant when entered alone but not the replacement rate

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Table A3. **Synopsis of studies on the link between institutions and performance** *(cont.)*

Studies	Method and sample	Dependent variables	Institutional variables	Key results/comments
OECD (1999c)	Two-period pooled regression: 1985-90 and 1992-97 averages 19 OECD countries Random effect GLS	**Log UNR; total,** male, female, youth, low-skilled E/POP ratio: male, female, youth. Share of self-empl., temporary	WEDGE, EPL, **UDENS,** UCOV, COOR, CENT, RR, BDUR, ALMP, **HOOR**	– EPL only significant (at 10%) in prime-age male equation – Few significant institutional variables compared to other studies
Di Tella and MacCullogh (1998)	Pooled (dynamic) regressions for 1984-90: 21 OECD countries: Random effect GLS and GMM	**E/WPOP: total,** female, male. Part. rate: total, female, male. UNR: total, long term. Weekly hours.	**EPL,** UB, **Lagged dependent variable**	– UB is significant only when both country and time effect dummies are entered and lagged dependent is excluded. – EPL is significant across different dependent variables and specifications
Daveri and Tabellini (1997)	Pooled (static and dynamic) regressions for 1965-91; 5-year ave.; 14 OECD countries	**Total UNR: level** and first-difference	**WEDGE, RR**	– Wedge effect allowed to differ according to 3 groups of countries: never significant in Scandinavian group, only significant in level equation for the Anglo-Saxon group, always significant in euro group.
Blanchard and Portugal (1998)	Cross-country regression averages over 1986-94	Flows into unemployment Unemployment duration	**EPL**	– EPL has significant effect on flow into unemployment and duration but implied coefficient values suggest no effect on level of unemployment
Labour market performance: reduced-form or structural wage equations				
Daveri and Tabellini (1997)	Pooled (static and dynamic) regressions for 1965-91; 5-year average; 14 OECD countries	**Real wage growth: gross** and net (manufacturing)	**WEDGE,** RR, **GDP per CAPITA** (all variables entered in first-differences)	– Wedge effect allowed to differ according to 3 groups of countries: significant in European country group but not in Scandinavian or Anglo-Saxon group.

Table A3. **Synopsis of studies on the link between institutions and performance** *(cont.)*

Studies	Method and sample	Dependent variables	Institutional variables	Key results/comments
Nicoletti, Haffner, Nickell, Scarpetta, Zoega (1999)	Pooled (static) regression over the 1982-95 period: 19 OECD countries GLS random effect: 2-digits manufacturing industries	**Log real wages: Level** and relative to the PPP US manufacturing average	**PROD, R&D,** Share of self-employed. Import penetration 2nd step: EPL and PMR	– PROD explains most of variations in real wages across industries and countries but R&D also has a significant effect – Excess wages are positively correlated with both EPL and PMR but few of the correlations are significant
Nickell and Layard (1998)	Individual time-series regressions 16 OECD countries 1955-86	**Log real labour cost**	**Lagged dependent, K/L ratio,** WEDGE, Δ **WEDGE**	– Results based on average coefficient and t-statistic – Total taxes only have temporary effect on labour costs
Product market performance: Reduced-form output or productivity growth equations				
Layard and Nickell (1998)	Cross-country regressions based on average values for 1976-92: 20 OECD countries	**Productivity growth rates: Labour productivity** and TFP (correction made for hours)	WEDGE, EPL, RR, BDUR, HOOR, **Initial productivity gap**	– Union variables omitted because never significant – The total tax rate (WEDGE) and EPL are significant only if productivity catch-up variable is left out. In such case, EPL has a positive effect on productivity whereas taxes have a negative effect
Koedijk and Kremers (1996)	Cross-country regression Average of 1981-93 11 European countries	**Real private sector per capita output growth** Productivity growth: total factors, labour and capital	**PMR,** EPL, **PMR and EPL combined in one regulation variable**	– EPL has a significant effect on output growth only if entered in isolation – Same results obtained if dependent variable is TFP growth – EPL has a significant negative effect on capital productivity but no effect on labour productivity

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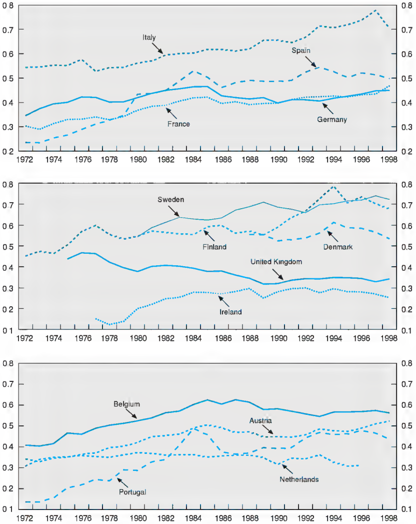
Table A3. **Synopsis of studies on the link between institutions and performance** *(cont.)*

Studies	Method and sample	Dependent variables	Institutional variables	Key results/comments
Dutz and Hayri (1998)	Cross-country regression and correlation analysis Average of 1986-95 100 countries	Step 1: growth in real GNP per capita Step 2: Unexplained growth component from step 1	Step 1: **CONV, OPEN, HCAP, INVEST** Step 2: **COMP, CONC, MOBILITY**	– Almost all the variables of competition policies (COMP) and MOBILITY are significantly correlated with residuals from growth equations – 3 out of 5 variables measuring market concentration (CONC) are significantly correlated.
Nicoletti, Haffner, Nickell, Scarpetta, Zoega (1999)	Cross section regression of price convergence: average of 1985-96 21 OECD countries	Change in the (weighted and unweighted) similarity of price structure	**Initial similarity level,** TRADE, **EXPSHR, EU-DUMMY, NTB,** TRADEABLE	– Finds significant evidence that prices have converged more rapidly in EU than elsewhere but the process of convergence has slowed since 1993 – No significant effect of bilateral trade intensity or category of goods (tradeable vs non-tradeable)
Goff (1996)	Time series regression Three-year averages over 1950-90 United States	**GNP growth** Productivity growth	**PMR, OIL price,** Gvt. Spendings, **lagged GNP** All in first difference	– Finds sizable effect of PMR on GNP growth: average PMR growth reduces GNP growth by 0.9%

1. The institutional variables in bold are significant in the equation corresponding to the dependent variable in bold.
2. Abbreviations are: UNR: unemployment rate, E/POP: employment-population ratio, E/WPOP: employment rate, WEDGE: tax wedge, EPL: employment protection legislation, UDENS: union density, UCOV: Union coverage, COOR: degree of coordination of wage negotiations across employers and employees, CENT: degree of centralisation of wage bargaining, CORP: corporatism (combination of coordination and centralisation), RR: replacement rate, BDUR: benefit duration, ALMP: active labour market policies, HOOR: home owner occupation rate, MWAGE: minimum wage, OPEN: index of exposure to foreign competition, TRESTR: index of pervasiveness of trade restrictions, TERMS: terms of trade, IRLR: long-term real interest rates, PMR: product market regulation, PROD: level of productivity, R&D: spendings on research and development, CONC: measure of market concentration, COMP: summary indicator of competition policies, HCAP: measure of human capital, INVEST : investment share of GDP, CONV: initial level of real GDP per capita (to capture catch-up effects), MOBILITY: share of owner-managers in labour force, NTB: non trade barriers, TRADE: measure of bilateral trade intensity, EXPSHR: share of spending on a good in total expenditure.

Source: OECD Secretariat.

Figure A3. **Wedge between real producer wage and take-home pay**[1]



1. The wedge is constructed as the difference between the real wage paid by producers, including payroll taxes and the real wage received by workers net of income taxes. The nominal wage series is deflated by the GDP deflator in the case of the real wage paid by producers and by the consumption deflator in the case of the real wage received by workers.

Source: OECD Secretariat.

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Nevertheless, EPL may have indirect effects by reducing the speed of real wage adjustment. For instance, job security provisions could make unions more inclined to bid for higher wages and hence give them an incentive to adjust their bargaining strategy so as to put more weight on achieving wage gains as opposed to preserving employment for members. This can then translate into a higher degree of real wage resistance. The lower job turnover associated with strict EPL also often implies an increase in the average duration of unemployment and the proportion of long-term unemployed. This raises unemployment persistence and diminishes the influence of unemployed on wage setting. Moreover, employees who enjoy high job security may feel less motivated to search for a better job alternative or even to accept a potentially attractive job if it is on a fixed-term contract. All this can create sclerotic labour market conditions and raise the sensitivity of structural unemployment to certain types of shocks.

Some studies have indeed found that in countries with stringent EPL, the average unemployment spell is longer and concentrated among prime-age women, youths and older workers (OECD, 1999*b*).[16] For instance, a comparison between Portugal and the United States since the 1970s shows that a similar average unemployment masks important differences in term of the composition and dynamics of unemployment. Owing to stronger EPL, the unemployment duration is much longer in Portugal and the flow in and out of unemployment is much lower (Blanchard and Portugal, 1998). Based on an overall indicator of EPL for 1998, the Mediterranean countries and France have the most stringent EPL in the European Union, while it is low in Denmark, Ireland, the United Kingdom and virtually absent in the United States (Table 9).

As in the case of EPL, the net direct incidence of a statutory minimum wage on overall employment appears to be limited, especially when it is set at a moderate level relative to the average wage. This is because a minimum wage high enough to cause job losses for the least productive workers (low-skilled, youth) may paradoxically have a positive effect for more productive categories (prime-age males) for reasons partly related to efficiency wage considerations (OECD, 1998*b*, Abowd *et al.*, 1997). And, although there is broad agreement that beyond a certain level the adverse employment effects are likely to dominate, the threshold is hard to establish with any precision. However, by affecting disproportionately specific categories of workers, a uniform minimum wage may contribute to reinforce insider-outsider mechanisms and thereby reduce aggregate wage flexibility. This is in addition to the reduction in relative wage flexibility which, combined with low labour mobility may partly explain the relatively high regional dispersion of unemployment rates in countries where a relatively high minimum wage is set at the national level.[17]

By imposing various conditions on the terms of collective agreements, labour market regulation can also influence the relative bargaining power of workers' unions. In the context of a wage bargaining framework, strong union power with little co-ordination would lead to either high real wage resistance or unemployment persistence depending on whether the union puts more weight on maximising real wages or on protecting its membership (Nickell, 1998). In this regard, it has been argued that industry-wide unions were more effective than either nation-wide unions or small units at the firm level in maximising the benefits of their members (insiders), often at the expense of the unemployed (outsiders) (Calmfors and Driffill, 1988).[18] Conversely, decentralised, highly centralised or co-ordinated wage negotiations would be reflected in a relatively low degree of wage resistance and, possibly less wage-push shocks. This suggests that the potentially adverse effect of union strength on the speed of wage adjustment and unemployment persistence may be offset by other aspects of the institutional arrangements concerning wage bargaining, in particular the extent to which it is centralised or co-ordinated.

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As shown in Table 9, the degree of co-ordination in the majority of the European Union countries is intermediate, *i.e.* neither highly decentralised as in the United States or United Kingdom nor highly co-ordinated as in Japan and a few European Union Member States (Germany, Netherlands, Austria, Ireland and Italy).[19] In some of the latter countries (Ireland, the Netherlands and Italy), a higher degree of co-ordination has been achieved via the implementation of incomes policy at the national level. Such policies seem to have worked better when the government's objective is to convince social partners to negotiate a co-ordinated wage settlement rather than to unilaterally impose wage limits, as was often the case in the 1970s and 1980s (OECD, 1999*c*).

Product market regulation and the strength of competition

In the case of product markets, regulation encompasses different aspects of trade, competition and environmental policies, as well as the rules that determine the conditions of entry and development of enterprises. The influence of regulation in the context of imperfect markets is discussed in more detail in Box A1. One of the key channels of transmission of product market regulation on product and labour market performance is via its impact on competition. In this respect, the overall benefits of adopting policies to raise labour market flexibility could be offset by ineffective competition policies.

A low degree of product market competition is typically reflected in a high average price mark-up, which contributes to raise structural unemployment by reducing long-run labour demand (see equation 4 in Annex IV). In the short run, weak competitive pressures may also slow the speed of price adjustment and allow firms to hoard labour more easily and thereby contribute to smoothing employment throughout business cycles. On the other hand, weak product market competition can raise output volatility since relative prices do not respond quickly to market conditions, implying a larger and more persistent adjustment in quantities in response to shocks.

The latter two factors suggest that where competitive pressures are lower, the variance of output growth should be higher than that of employment growth as firms will tend to hoard labour in the short term. Figure A4 (top panel) shows how the ratio of standard deviations of output growth to employment growth has changed. This indicator suggests that the extent of labour hoarding has diminished everywhere in European Union countries since the mid-1980s whereas it has remained roughly constant in the United States (at a relatively low level) and Japan (at a high level). Moreover, in most countries the observed decline in labour hoarding has come through a reduction in output volatility as employment volatility has only risen marginally.

Simple econometric analysis suggests that the reduction in labour hoarding can partly be explained by an increase in competitive pressures in product markets and by the rising incidence of temporary employment contracts (Figure A4 and Table A4). Cross-country regressions have been performed that link the change in the ratio of standard deviations of output and employment growth to the change in bilateral intra-industry trade and the change in the share of temporary contracts in total employment, both introduced separately and jointly. The results show that after controlling for the rise in the use of temporary contracts, the explanatory power of the increase in intra-industry trade rises close to the 90 per cent confidence level (or above if Ireland is excluded), suggesting that the gradual drive to the single market may have had a significant impact on the management of labour demand by firms. Likewise, the significance of temporary contracts is magnified by the introduction of a measure of trade intensity.

Box A1. Market imperfections, market power and the role of regulation

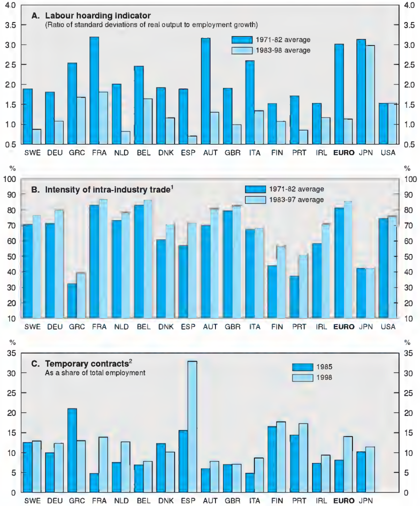
The painful experience of some economies undergoing a transition from a state-controlled to a decentralised market economy based on private ownership illustrates the need for a strong legal framework and credible institutions to underpin sustained economic growth. Another well-known benefit of regulation arises when production externalities drive a wedge between the social and private returns on certain activities. Since incomplete markets cannot properly internalise these externalities, the government intervenes to provide a public service which, in the case of positive externalities, tends to be under-supplied by the private sector (*e.g.* education, defence) or to limit production in the case of negative externalities (*e.g.* polluting activities).

In the context of market imperfections, regulation can influence the distribution of income. For instance, imperfect competition generates a rent that the main economic actors, *i.e.* firms' owners, managers, employees and the government (on behalf of the non-employed) attempt to appropriate using their respective market or legislative powers. The fact that capital is quasi-fixed in the short run creates an extra incentive for the actors who enjoy stronger bargaining power to appropriate a larger share of the rent. In the longer run, however, a normal return on capital must be generated in order for shareholders to maintain their investment. The process leading to a restoration of normal profit returns usually comes through a gradual adjustment of the capital stock, which can be protracted depending on the intensity of competitive pressures in the sector concerned and the size of adjustment costs. At the macroeconomic level, it is often characterised by a period of slow investment growth, which leads both to a reduction in the overall size of the rent and a re-appropriation by the owners of capital.

In some cases, market power arises from natural market imperfections such as asymmetric information that may for instance induce managers to pay workers somewhat more than their marginal product to discourage them from shirking in the workplace (efficiency wage). The same type of market limitation may also cause "X-inefficiencies", *i.e.* situations where firms' top executives appropriate part of the rent by engaging in expenses that improve their comfort but do not generate value-added. Besides these intrinsic sources of market power, governments can also use regulation to tilt the bargaining power in favour of a particular group, not always for the benefit of long-term growth, especially when profit expectations are adversely affected. In particular, they can affect the respective market power of firms and employees by using regulation to limit the strength of competition on product and/or labour markets either in specific sectors or at the economy-wide level.

To the extent that the change in labour hoarding reflects an increase in competitive pressures and lower mark-ups, benefits in terms of higher levels of production, investment and employment can be expected in the longer run. However, the period of adjustment to less labour hoarding has been characterised by labour shedding and higher unemployment in the short term. As mentioned earlier, the reduction in labour hoarding is regarded by some as one of the contributing factors to the rise in structural unemployment in the

Figure A4. **Labour hoarding and underlying determinants**



A. Labour hoarding indicator
(Ratio of standard deviations of real output to employment growth)

B. Intensity of intra-industry trade[1]

C. Temporary contracts[2]
As a share of total employment

1. Intra-industry trade for industry i is the value of trade remaining in that industry after the subtraction of the absolute value of industry i net exports from the total value of trade in industry i. For comparison across countries and industries, the measures are expressed as a percentage of total value of trade in industry i. Trade flows are measured at the three digit level.
2. There are no comparable data available for the United States.

Source: OECD Secretariat.

Table A4. **Factors contributing to the decline in labour hoarding**[1]

	Endogenous variable: % change in ratio of standard deviations of real output to employment growth from 1971-82 to 1983-98			
	Regression 1	Regression 2 (exc. Ireland)	Regression 3	Regression 4
Constant	–0.27 (3.77)	–0.34 (5.2)	–0.35 (4.79)	–0.36 (6.92)
% change in bilateral intra-industry trade between 1971-82 and 1983-96	–0.63 (1.64)	–0.72 (1.79)	–0.45 (1.03)	..
% change in the share of temporary contracts in total employment between 1985 and 1997[2]	–0.17 (2.26)	–0.17 (2.26)	..	–0.14 (1.84)
R-Square	0.37	0.41	0.08	0.22
F significance	0.08	0.07	0.32	0.09
Size of sample	14	13	14	14

1. All the countries appearing in Figure A4 are included in the sample except Austria, Finland and Sweden, for which data on temporary contracts during the first sub-period are not available.
2. Since no comparable data on temporary contracts are available for the United States, it was assumed that the share has not changed over time.

Source: OECD Secretariat.

euro area in the 1990s. Given the current process of deregulation in large sectors such as telecommunications, road transport and electricity, pressures for more rapid adjustment in the labour force may well intensify. While deregulation in these sectors is expected to bring substantial benefits in terms of lower aggregate prices and higher productivity, there could be adverse effects on aggregate employment in the short run (Blöndal and Pilat, 1997).[20] In order for the labour resources freed to be absorbed more rapidly in other economic sectors, the increase in competition must be accompanied by product market reform so as to facilitate the creation of firms in new industrial and service sectors and by labour market reform so as to raise the incentives to take up work.

A variety of direct and indirect indicators of competitive pressures and regulation have been used in the empirical literature to assess their effect on product market performance. Besides the measures of bilateral trade intensity and the importance of tariff and non-tariff barriers, other direct indicators typically include measures of the degree of market concentration in specific sectors and the effectiveness of antitrust policies. The OECD has developed a set of indicators of product market regulation (PMR), many of which are presumed to limit competition.

The index corresponding to each of these categories as well as a two summary indicators, one for all categories and one for inward-oriented policies, are reported in Table 10. According to the overall measure of PMR, the most regulated product markets are found in Greece, Italy and France. Moreover, all European Union countries except the United Kingdom and Ireland have more stringent PMR than the United States, although for most of them, regulation is no more stringent than in Japan. The difference between the

United States and European Union countries is particularly striking in the area of state control, which involves both direct public ownership and indirect interference in private firms (special voting rights and use of command and control regulation).

Given that some of the benefits from stronger competition come through lower average price mark-ups, an indirect way to assess the degree of competitive pressures is to compare mark-up levels internationally. Average mark-ups do indeed appear to be higher in Japan, Germany and France than in the United States and the United Kingdom, although not by a wide margin (Oliveira Martins and Scarpetta, 1998). In addition, in all of those countries except Japan, the average size of the mark-up is about 10 per cent (20 per cent in France) higher in industries characterised by large firms and high entry barriers compared to industries with many small firms and low fixed costs.

Since most industries are subjected to similar regulatory regimes within a country, the latter finding provides an illustration that factors other than protectionist regulation can contribute to fat mark-ups. For instance, in industries where factors such as economies of scale, product differentiation and R&D expenditures constitute high barriers to entry, increased competitive pressures are more difficult to bring about despite competition-friendly regulation. Conversely, low mark-ups do not necessarily imply intense product market competition but may instead reflect a large appropriation of the rent by workers, which could be the case if the labour market is also largely non-competitive. An examination of the effect of rising integration in the European Union and the associated stronger competitive pressures on price differentials could shed additional light on these questions.

Using Eurostat and OECD data on purchasing power parities and real expenditures, Nicoletti *et al.* (1999) constructed an index of bilateral price similarity across European Union countries, as well as for a group of non-OECD countries for selected years between 1985 and 1996. While they found evidence of stronger price similarities among European Union countries, convergence in the European Union took place essentially between 1990 and 1993 and the process has slowed considerably since the official completion of the Single Market.[21] Indicators of sectoral price dispersion across European Union Member States suggests that substantial price differences still persist in some manufacturing sectors (in particular pharmaceuticals) as well as in some services sectors with particularly high prices found in the wholesale and retail trade sector in Denmark, Austria, Sweden and the United Kingdom (EC, 1999*a*).

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Annex VI

The width of intra-European borders

Over the past decades, economic integration has proceeded swiftly along many economic dimensions – labour market integration being a notable exception. Closer integration lowers the vulnerability of countries to asymmetric shocks and broadens the channels for shock transmission. Moreover, close integration makes it easier for countries to support a common monetary policy stance.

The previous EMU study has documented various important channels that have promoted integration. Since 1970, for instance, the share of intra euro area trade has almost doubled and intra-industry trade flows – an indicator for industrial diversification – have risen sharply. The most rapid rises were recorded in countries that joined the European Union at a later stage (Ireland, Portugal and Spain). At the same time, integration led to a lower dispersion of prices across countries, even though it remains fairly high and price convergence has progressed little in recent years. The single market programme has also had a sizeable impact on cross-border direct investment and merger activity. Progress in market integration has been uneven between countries and markets, however. Some markets, like telecommunications or energy have only recently been opened to greater competition, implementation of the single market in public procurement has not advanced much and the mergers in banking mostly take place within domestic markets rather than across borders.

Many policy-imposed barriers on the flow of goods, capital and labour have disappeared. However, some changes are fairly recent, including the introduction of the euro so that national borders have not yet lost all their significance. In addition, fewer policies are centralised in the European Union as compared to federations and market segmentation is also influenced by language and cultural differences. A better understanding of how economies will evolve as national borders decline can be gained by analysing the interactions between regions within a country. They provide a natural benchmark for understanding economic relationships in integrated areas. They can reveal important implications of integration for trade, growth, business cycles or capital flows. They can also be informative about the limitations to economic integration. Moreover, they can highlight differences in macro and micro policy effects that influence segmentation and the propagation of macroeconomic policy. The literature has focused mainly on capital and goods market integration as well as business cycles in and across countries.

Capital market segmentation. Despite the sharp rise of international capital flows, a sizeable home bias in stock and bond portfolios remains, signalling a fairly low degree of international capital mobility. A low degree of diversification is also suggested by the high correlation of saving and investment across countries and over time in individual countries. Moreover, cross-country correlations of consumption are often even lower than cross-country output correlations, suggesting a low degree of risk sharing across countries. If countries, for instance, experience different output shocks, output will have a low correlation across countries. Individuals, however, could buy claims on other countries' output, thereby reducing domestic income risk. In this case, consumption growth would have a high correlation, even when output growth rates do not. Table A5 shows the output and consumption correlation matrix for the European Union countries, the United States and Japan. A striking feature is that the correlations for both output and consumption are fairly high for the euro area countries and typically much lower for the other countries. While there is a slight tendency for consumption correlations to be lower, this is not uniformly so and differences are not large. This contrasts with the results for the G-7 countries in 1950-92 reported in Lewis (1999), who finds lower correlations overall and bigger differences between output and consumption correlations.

Significant home bias can be explained by various factors (Lewis, 1999): home assets are a better hedge against country-specific risks; the tax, information and other costs of diversification exceed the gain; not all wealth (human capital being the largest item) and goods are tradeable; government restrictions impede investment in foreign assets. Some of these factors, such as government restrictions, have lost in importance over time, especially in the European Union. This could explain the reduced home bias in more recent data, especially for the euro area countries. Crucini and Hess (1999) show for Canadian provinces, US states and Japanese prefectures that a much larger share of consumers pool risk across regions within a country than across countries. Also the correlation between saving and investment is lower within than across countries. Van Wincoop (1999), for instance, finds correlations for Japanese prefectures ranging anywhere between –0.71 and 0.96, while for OECD countries it is usually above 0.5. While there is substantial evidence that international capital markets are more segmented than regional ones, there is also evidence that intranational capital markets are not perfectly integrated. Overall, it appears that the euro area countries are in between.

Goods market segmentation. Research on goods markets has focused on differences in the size of intra-regional and international trade flows as well as price dispersion within and across countries. McCallum (1995), Helliwell (1996), Anderson and Smith (1999), and Wolf (1999), for instance, have found a surprisingly large border effect. After controlling for distance and other geographic variables (a dummy is used to distinguish between cross-border and internal trade flows), these studies show that trade between the Canadian provinces is between 10 to even more than 20 times larger than between Canadian provinces and US states. In a study including the European Union countries, Helliwell (1998) finds that both being in the European Union and sharing a common language reduces border effects significantly. Finally, Wolf also documents a sizeable intranational home bias, with trade within states being 3 times higher than across states. This suggests that home bias is unlikely to go away completely even when countries are highly integrated.

Similar exercises have focused on price variability within countries and have compared it to cross-country variability. Focusing on Canadian provinces and US states, Engel and Rogers (1996) find again an effect of the border which is very large as compared to distance and by far too large to be explained by any remaining trade barriers. As with the empirical research on trade flows, distance again captures transport and information costs. While taking into account differences in costs (wages) across regions reduces the effect of distance on price variability, it does not affect the border effect. On the other hand, mark-ups appear to fluctuate widely with exchange rate changes and cross-border prices mainly move along with the exchange rate. Controlling for exchange rate fluctuations halves the border effect, which nevertheless remains very large. Sizeable and persistent mark-up

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Table A5. **Consumption and output growth correlations**[1]

1979h1-1998h2

	Aut	Bel	Fin	Fra	Deu	Ire	Ita	Nld	Prt	Esp	**Euro**	USA	Jpn	Gbr	Dnk	Grc	Swe
Austria	1.00	0.27	0.09	0.30	0.33	–0.05	0.25	0.21	0.15	0.29	**0.43**	–0.06	0.54	0.15	–0.07	0.20	0.01
Belgium	0.48	1.00	0.25	0.54	0.53	0.25	0.75	0.49	0.42	0.66	**0.83**	–0.17	0.38	0.17	–0.04	0.52	0.49
Finland	0.14	0.39	1.00	0.58	–0.21	0.12	0.41	–0.00	–0.09	0.33	**0.30**	0.33	0.28	0.59	0.03	0.26	0.60
France	0.59	0.68	0.47	1.00	0.18	–0.11	0.46	0.13	0.33	0.48	**0.62**	–0.00	0.41	0.29	–0.11	0.43	0.51
Germany	0.64	0.49	–0.17	0.46	1.00	0.23	0.41	0.59	0.35	0.56	**0.79**	–0.05	0.30	0.03	0.03	0.09	0.26
Ireland	0.12	0.41	0.32	0.29	0.13	1.00	0.09	0.52	0.07	0.44	**0.26**	0.45	–0.19	0.37	0.22	0.16	0.29
Italy	0.57	0.62	0.43	0.66	0.53	0.03	1.00	0.15	0.16	0.50	**0.77**	–0.19	0.45	0.16	–0.22	0.31	0.51
Netherlands	0.49	0.50	0.15	0.37	0.65	0.45	0.42	1.00	0.24	0.63	**0.57**	0.30	0.08	0.18	0.38	0.22	0.34
Portugal	0.54	0.60	0.37	0.70	0.34	0.26	0.55	0.22	1.00	0.55	**0.44**	–0.31	–0.07	0.04	–0.24	0.05	0.23
Spain	0.34	0.64	0.30	0.65	0.39	0.40	0.34	0.51	0.58	1.00	**0.82**	0.17	0.29	0.37	–0.06	0.50	0.62
Euro area	**0.73**	**0.76**	**0.29**	**0.83**	**0.82**	**0.29**	**0.80**	**0.69**	**0.63**	**0.67**	**1.00**	**–0.00**	**0.48**	**0.27**	**–0.05**	**0.41**	**0.60**
United States	–0.06	0.07	0.25	0.09	0.19	0.28	0.21	0.57	–0.19	0.22	**0.26**	1.00	–0.04	0.66	0.59	–0.07	0.31
Japan	0.30	0.17	0.04	0.28	0.40	–0.17	0.43	0.08	0.31	0.19	**0.40**	–0.07	1.00	0.35	–0.11	0.39	0.31
United Kingdom	0.14	0.12	0.45	0.31	0.02	0.12	0.31	0.30	0.10	0.46	**0.30**	0.56	0.05	1.00	0.24	–0.01	0.50
Denmark	0.15	0.07	0.14	0.09	0.11	0.08	0.22	0.25	–0.18	0.03	**0.17**	0.34	–0.12	0.51	1.00	–0.01	0.26
Greece	0.46	0.61	0.37	0.58	0.47	0.31	0.52	0.53	0.32	0.38	**0.66**	0.33	0.19	0.20	0.35	1.00	0.25
Sweden	0.29	0.48	0.67	0.47	0.27	0.29	0.63	0.42	0.25	0.40	**0.56**	0.43	0.15	0.43	0.43	0.42	1.00

1. The figures below the diagonal are output correlations and the figures above the diagonal are consumption correlations.

Source: OECD Secretariat.

adjustments following exchange rate changes also seem to have a strong effect on car price differences across European Union countries (Goldberg and Verboven, 1998). A recent paper by Engel and Rogers (1999) covers consumer prices from 55 cities across 11 European countries. They find again a large sticky-consumer-price cum volatile exchange rate effect. As exchange rate volatility rose in the aftermath of the 1992 ERM crises this could explain why price dispersion did not decline between 1993 and 1996. On the other hand, they document lower intra-national relative price variability over time and also that the forces leading to greater market integration of regions within countries are at work to an even greater extent between European Union countries.

Labour market segmentation. The high degree of labour market segmentation has been documented in detail in the previous study. Despite the fact that European Union citizens have the right to work in other member States, few people choose to do so. Mobility is also low across regions at the national level in Europe. Low mobility has led to unemployment differentials that are large and persistent. In contrast, labour market mobility is fairly high in the United States, Canada and Australia, implying a much smoother labour market adjustment to region or industry specific shocks or macroeconomic policy actions. On top of the language and cultural barriers which exist in Europe, a host of economic factors have reduced mobility. For instance, replacement rates are high for jobseekers, reducing incentives for searching for jobs; eligibility criteria concerning job mobility are not enforced; housing policies can reduce mobility; and there is a lack of information concerning jobs in other countries. Finally, minimum wages are usually set uniformly for all regions of a country, and wage differentials cannot absorb differences in productivity developments. For euro area countries, a slow adjustment of aggregate wages to labour market conditions could imply a gradual gain or erosion of competitiveness, and a drawn-out adjustment of employment. Exchange rate changes are not available anymore to speed up adjustment.

Business cycle fluctuations. Evidence on the sources of business cycle fluctuations in and across countries has also been used to highlight the degree of market segmentation. This is usually investigated by decomposing cycles into industry and regional components; a common national or international component; and a component specific to an industry in a region. Clark and Shin (1998) review a large number of studies. All of these show that the common component is less important in international fluctuations than in within-country business cycles. They also tend to show that region-specific shocks are more important in international fluctuations than in within-country fluctuations. Finally, industry-specific shocks are less important internationally than within the United States. This suggests that a lowering of the economic borders dividing nations should reduce the importance of country-specific shocks in international fluctuations, while common and industry-specific factors could gain in importance. That common factors will start to dominate in the euro area is supported by the evolution over time of cross-country output correlations, indicating that the euro area's business cycle has become much more closely synchronised.[22] While closer integration of goods and factor markets is likely to be important in this context, the effects of macroeconomic policy co-ordination in the European Union in the form of the ERM and the Maastricht fiscal criteria should not be underestimated. However, if the country-specific shocks were not generated by macroeconomic policy factors and national policies have been important in stabilising business cycles, then the adoption of common policies, which rule out the conduct of independent stabilisation policies may not alter much the importance of nation-specific shocks. If nation-specific shocks were to dominate, monetary union would not be desirable. So far, moving towards adopting common policies has raised the common component in the euro area.

Notes

1. For more details, see Italianer (1999).
2. Reform proposals were put forward in October 1999 by Jean-Luc Dehaene, Richard von Weizsäcker and Lord Simon.
3. For both countries, further progress on economic reform is part of the conditionality. Moreover, Bulgaria is asked to close a nuclear power plant and Romania to improve the situation in childcare institutions.
4. Free movement of goods, people, services and capital, company law, competition policy, agriculture, fisheries, transportation, taxation, EMU, statistics, social policy and employment, energy, industrial policy, small and medium-sized enterprises, science and research, education and training, telecommunications and information technologies, culture and audiovisual policy, regional policy, environment, consumer and health protection, justice and home affairs, customs, external relations, common foreign and security policy, financial control, financial and budgetary provisions, institutions and other.
5. For details on deals through September 1998, see EC (1999*e*).
6. This is assuming that a minimum degree of competition prevails in the product market.
7. The presence of a negative coefficient associated with productivity growth (Δpr_t) may seem counter-intuitive but has to be interpreted in combination with the positive coefficient on the level of productivity (pr_t). Although, the specification assumes that there is ultimately full adjustment of the real wage level to productivity, there may be some resistance when an adjustment in the growth rate is necessary. This is consistent with evidence that real wage growth in Europe was slow to adapt to the trend decline in productivity growth in the mid-1970s.
8. This may be because the cost of capital has not followed a clear upward trend depending on how it is measured whereas payroll taxes have tended to rise more or less continuously until the late 1980s in many countries (Blanchard, 1998*a*). On the other hand, there is some evidence that the rise in the real interest rate in the 1990s has had a significant impact on equilibrium unemployment in OECD countries (Scarpetta, 1996 and Cotis and Rignols, 1998).
9. See Brayton *et al.* (1999) for recent estimates of a Phillips curve in the United States incorporating a similar "error-correction" term to explain the low rate of inflation in the 1990s despite tight labour market conditions.
10. Ultimately, increased competition will likely lead to a reduction of the power of insiders and thereby contribute to lower the degree of real wage resistance, but to a more limited extent than if it is underpinned by labour market reform.

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11. The standard methodology to compute replacement rates consists in simulating the hypothetical benefits received for different stylised household situations, based on the characteristics and rules of the system. An overall index can then be calculated taking an average of the different hypothetical replacement rates. Alternatively, the Commission has calculated replacement rates for European Union countries based on detailed information from the European Community Household Panel (ECHP) and found the rates to be largely comparable to those obtained under simulation-based methodology for about half the countries (Salomäki and Munzi, 1999).
12. Moreover, the macro evidence of a positive impact of benefits on the duration of individual spells has been corroborated by micro studies (Meyer, 1990).
13. In countries where such programmes are closely monitored, the effectiveness record so far is mixed in the case of training (with some successful programmes identified in the United States) and rather disappointing for measures aimed specifically at improving youth employment (Martin, 2000).
14. In fact, it is fairly common to find significant transitory effects of changes in the tax wedge on real wages but no permanent effects, especially on the basis of reduced-form wage equations (Layard and Nickell, 1998). However, the transitory effect on labour costs is in many countries sufficiently persistent to cause a permanent adjustment in employment or unemployment. Hence, several empirical studies based on pooled reduced-form regressions have found a significant adverse impact of the tax wedge on either employment or unemployment, although with an estimated elasticity generally smaller than for unemployment benefits (Table A3).
15. While several studies based on recent measures of EPL have found a significant positive link with overall unemployment (Table A3), in most cases the effect is small and the result not always robust.
16. See also Di Tella and McCulloch (1999) and Nicoletti *et al.* (1999) who both find a negative effect of EPL on the employment rate in the long run (Table A3).
17. While high aggregate wage flexibility speeds up the adjustment of real wages to labour market conditions, relative wage flexibility improves the matching of labour demand and supply across firms, sectors, regions and skill groups.
18. This view of a hump-shaped relationship between the degree of centralisation and structural unemployment has been challenged on the grounds that the degree of co-ordination, both across workers' unions and employers' associations, mattered as much as the unions' strength and centralisation for the impact on unemployment (OECD, 1997*b*).
19. Highly decentralised systems are usually uncoordinated although Japan is a rare example of high decentralisation and strong co-ordination of wage bargaining.
20. Using the most performing country as a benchmark, Blöndal and Pilat have estimated that regulatory reform aimed at boosting competition in key service sectors could lead to productivity gains of nearly three per cent in Germany and France compared to 0.5 per cent in the United States, the benchmark country in most sectors. On the basis of input-output structure, these productivity gains combined with reductions in mark-ups are estimated to lower the aggregate price level by over one per cent in Germany and France.
21. In contrast, Engel and Rogers (1999) argue that after controlling for the 1993 ERM realignment, price convergence has continued at the same pace after 1993.
22. This evolution becomes visible when Table A5 is divided into sub-periods (not shown here).

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